THE CAMBRIDGE COMPANION TO

THE AEGEAN BRONZE AGE

EDITED BY Cynthia W. Shelmerdine

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This book is a comprehensive, up-to-date survey of the Aegean Bronze Age, from its beginnings to the period following the collapse of the Mycenaean palace system. In essays by leading authorities commissioned especially for this volume, it covers the history and the material culture of Crete, Greece, and the Aegean Islands from ca. 3000 to 1100 BCE, as well as topics such as trade, religions, and economic administration. Intended as a reliable, readable introduction for university students, it will also be useful to scholars in related fields within and outside classics. The contents of this book are arranged chronologically and geographically, facilitating comparison between the different cultures. Within this framework, the cultures of the Aegean Bronze Age are assessed thematically and combine both material culture and social history.

Cynthia W. Shelmerdine is the Robert M. Armstrong Centennial Professor of Classics at The University of Texas, Austin. A scholar of Aegean Bronze Age archaeology and Mycenaean Greek language, history, and society, she has worked in the field with the University of Minnesota Messenia Expedition, the Pylos Regional Archaeological Project, and currently the Iklaina Archaeological Project. She is the author of many publications on Mycenaean culture.

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CYNTHIA W. SHELMERDINE

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This book is dedicated to

Mabel L. Lang
and
Emily D. T. Vermeule

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Editorial Conventions

In each chapter, chronological labels such as EM (Early Minoan) and LH (Late Helladic) refer to the region under discussion; EB (Early Bronze) and LB (Late Bronze) refer to the relevant period in other parts of the Aegean and elsewhere.

Terms that appear in the glossary are in bold, with a brief definition, the first time they appear in each chapter.

Greek in the text is transliterated, as in most books about the Aegean Bronze Age, with reasoned inconsistency. Greek toponyms appear in the form most often used in the literature. Greek *chi* becomes *ch*, not *kh*; for the most part *kappa* becomes *k*, but Crete and Mycenae, for example, are not subjected to this rule. In footnotes and bibliography, Greek is transliterated according to the conventions of library catalogs, so that readers will be able to look the cited works up easily.

In each chapter the first citation of a work is a full reference; if an article is not cited in full, the page range is included in brackets.

Each chapter ends with suggestions for further reading – the five or six works that those interested should consult next; these are also included in the bibliography. By the conventions of the Cambridge *Companion* series, the bibliography is abbreviated, and articles in cited books are not listed there individually.

A series of maps supplements the chapter figures. Reference is not made to them in the text, but virtually all the places mentioned in the text will be found on them.

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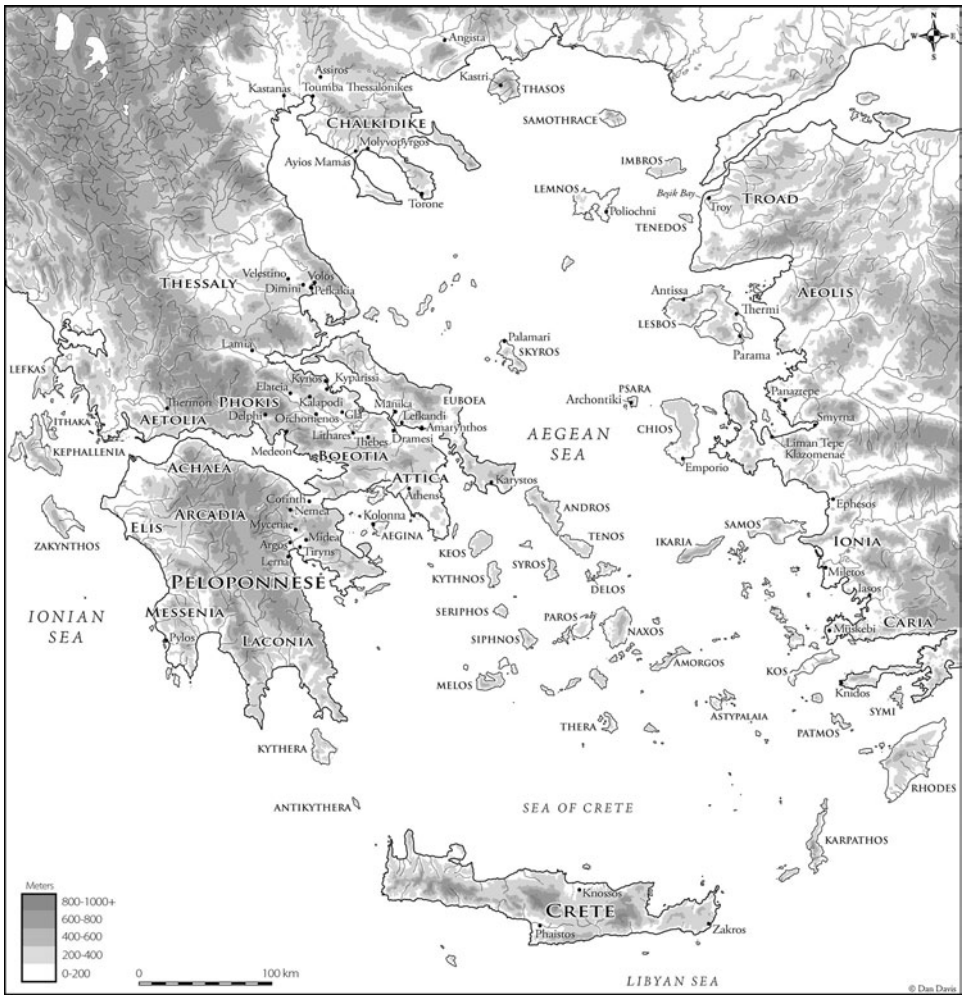
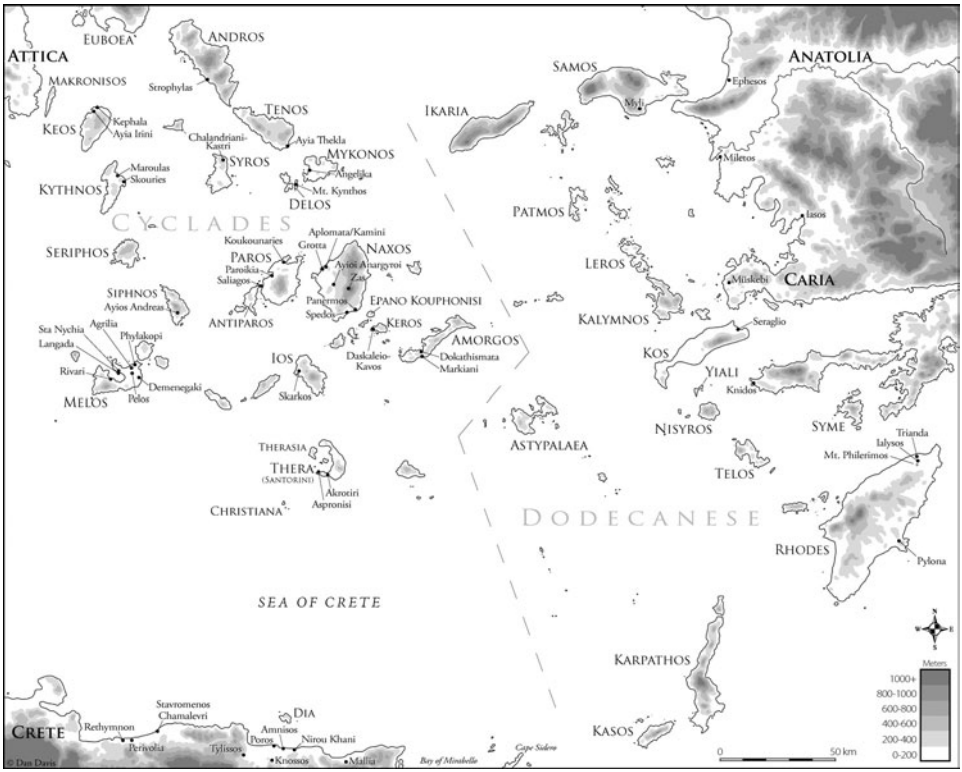
Abbreviations

AAA	*Archaiologika Analekta ex Athēnōn*
ABSA	*Annual of the British School at Athens*
AJA	*American Journal of Archaeology*
AM	*Mitteilungen des Deutschen Archäologischen Instituts, Athenische Abteilung*
BAR	*British Archaeological Reports*
BCH	*Bulletin de Correspondance Hellénique*
BICS	*Bulletin of the Institute of Classical Studies*
CMS	*Corpus der minoischen und mykenischen Siegel*
JHS	*Journal of Hellenic Studies*
JMA	*Journal of Mediterranean Archaeology*
OJA	*Oxford Journal of Archaeology*
SIMA	*Studies in Mediterranean Archaeology*
SMEA	*Studi Micenei ed Egeo-Anatolici*

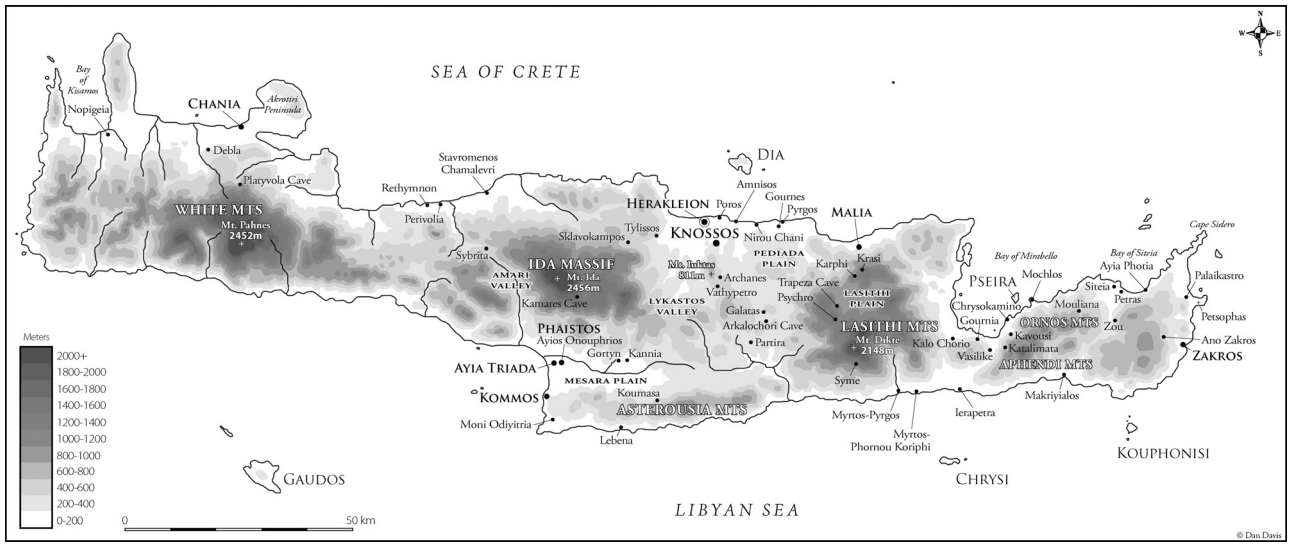
MAP 1. The Mediterranean.



MAP 2. The Aegean.



MAP 3. The Cyclades.


SEA OF CRETE
LIBYAN SEA
Bay of Kisamos
Nopigeia
CHANIA
Akrotiri Peninsula
Debla
Platyvola Cave
WHITE MTS
Mt. Pahnes
2452m
Rethymnon
Stavromenos
Chamalevri
Perivolia
Sybrita
IDA MASSIF
AMARI VALLEY
Mt. Ida
2456m
Kamares Cave
Sfidavokampos
HERAKLEION
Poros
Tylissos
KNOSSOS
DIA
Amnisos
Gournes
Pyrgos
MALIA
Nirou Chani
PEDIADA PLAIN
Mt. Juktas
811m
Archanes
Vathypetro
LYKASTOS VALLEY
Galatas
Arkalochori Cave
Partira
Karphi
Krasi
Trapeza Cave
Psychro
LASITHI PLAIN
LASITHI MTS
Mt. Dikte
2148m
Syme
Myrtos-Pyrgos
Myrtos-Phornou Koriphi
PHAISTOS
Ayios Onouphrios
Gortyn
Kannia
AYIA TRIADA
KOMMOS
MESARA PLAIN
Koumasa
ASTEROUSIA MTS
Moni Odiyitria
Lebena
GAUDOS
CHRYSI
Ierapetra
Makriyialos
Kalo Chorio
Vasiliki
Bay of Mirabello
PSEIRA
Chrysokamino
Gournia
Mochlos
ORNOS MTS
Kavousi
Katalimata
APHENDI MTS
Zou
Bay of Siteia
Ayia Photia
Siteia
Petras
Moulliana
Cape Sidero
Palaikastro
Persophas
Ano Zakros
ZAKROS
KOUPHONISI
Meters
2000+
1800-2000
1600-1800
1400-1600
1200-1400
1000-1200
800-1000
600-800
400-600
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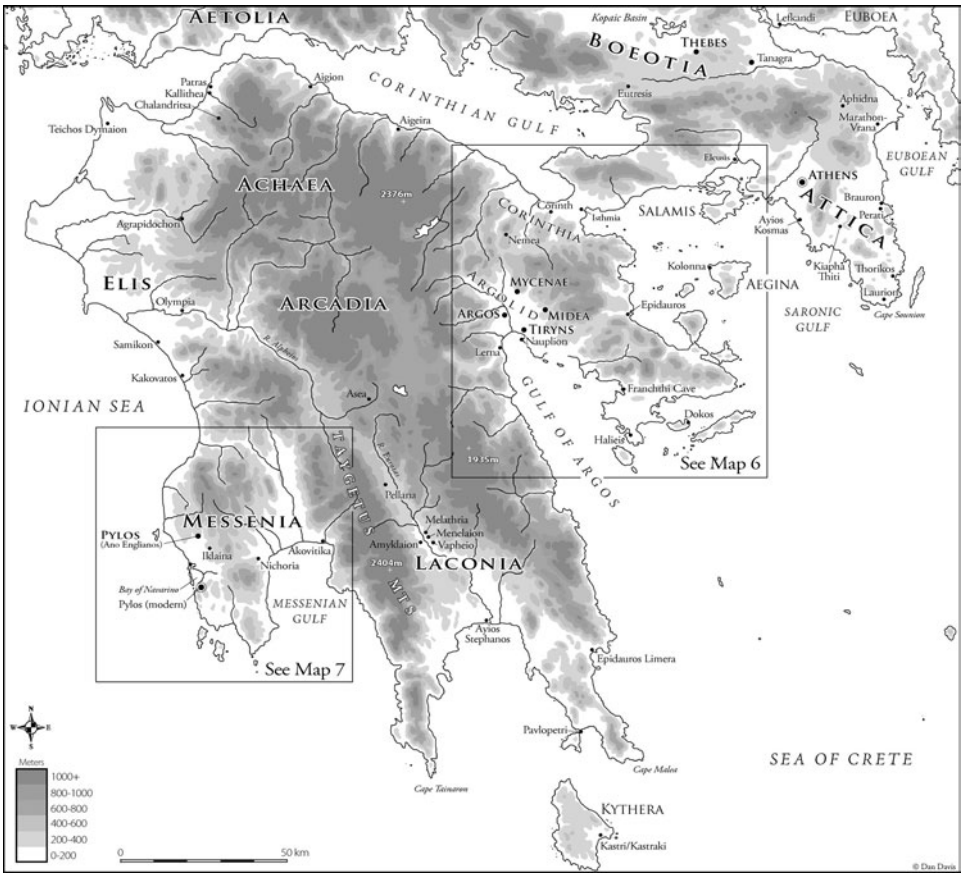
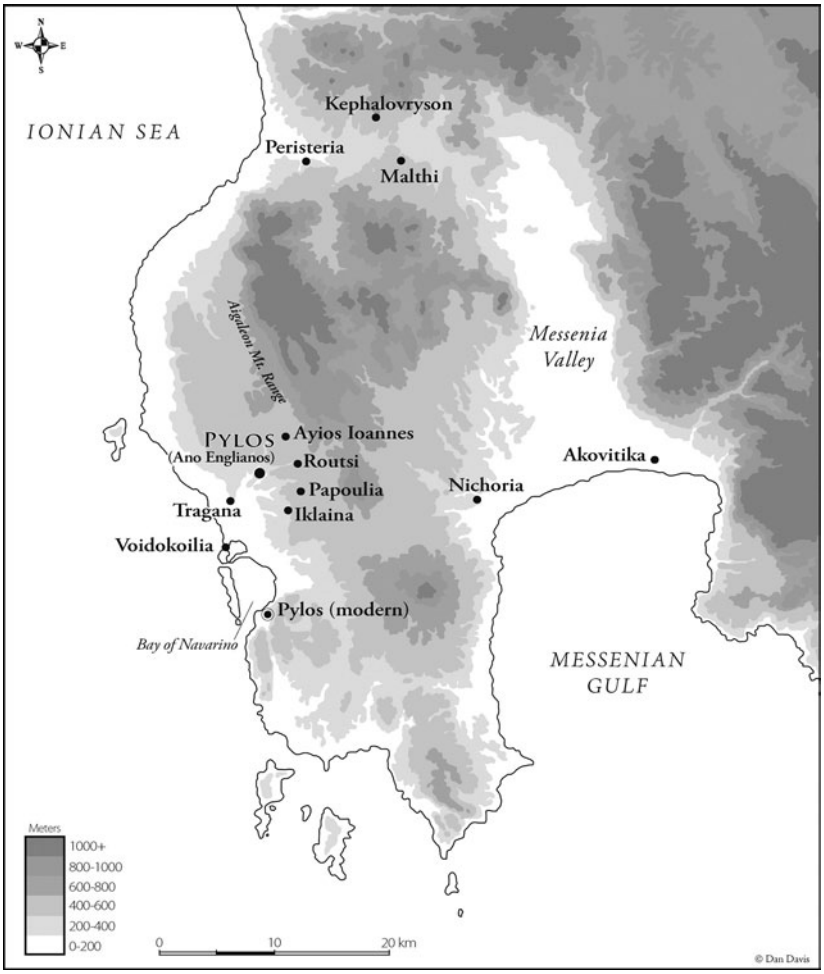
MAP 4. Crete.



MAP 5. The Peloponnese.

MAP 6. The Argolid.



MAP 7. Messenia.

1: Background, Sources, and Methods

Cynthia W. Shelmerdine

Background

The scope of this book is the Aegean Bronze Age: the history and material cultures of Crete, the Greek mainland, and the Aegean islands during the period when bronze had replaced stone as the dominant material for tools and weapons, and had not yet been supplanted by iron. The period began around 3100/3000 BCE and continued until about 1070 BCE; during its course different groups of people rose from basic subsistence to cultural prominence, interacted with each other and with civilizations around the Mediterranean basin, and subsided again beyond our reach. Serious study of the Aegean Bronze Age began over 120 years ago, fueled by several early projects, including exploration by the French on Santorini, the British at Phylakopi on Melos, and Heinrich Schliemann at Troy, Mycenae, and Tiryns.[1] Schliemann was motivated by a fascination with mythical accounts of the Trojan War, and Sir Arthur Evans, the excavator of Knossos, by curiosity about the signs, in an unknown script, incised into lumps of clay found on Crete.[2]

None of these pioneers could have imagined the quantities of sites and artifacts that would subsequently be found, the proliferation of new techniques for everything from excavation itself to scientific dating and provenience studies, or the textual information revealed by the decipherment of the Mycenaean script. Early investigators of the Bronze Age tried to characterize and contrast the material culture of different ethnic groups, with special attention to aspects that could be mapped onto a Homeric vision of the Greek past (Ch. 5, pp. 105–6). The history of Minoans and Mycenaeans (there was no convenient

mythical label for the Cycladic islanders) was viewed as linear upward progress toward "civilization," punctuated by the periodic impact of outside influence, invasion, or attack.

Our perspectives, though, have been altered by successive theoretical approaches in archaeological and historical studies.[3] Processual archaeology, dominant from the 1970s to the early 1980s, looked beyond artifacts to the people who made and used them, and introduced the systematic testing of hypotheses about human behavior.[4] General systems theory was also invoked in the 1970s, for example, to find an internal explanation for the rise of Aegean states (Chs. 2, pp. 19–20; 5, pp. 105–7).[5] The postprocessualist reaction starting in the 1980s is a diverse movement, based on skepticism about processualist generalizations, championing an awareness of individual agency and also of the way archaeologists' own cultural biases can shape their views of the past (Ch. 5, pp. 121–2, 125–6).[6] Cognitive archaeology is also applied in various forms to try to reconstruct the belief systems and symbolic behavior of the cultures we study (Chs. 4, pp. 83, 90, 92; 7, pp. 165–70; 13, pp. 338–40, 345).[7]

Today Aegean archaeologists have a rich array of theory to draw on, and elements of many approaches will be found within this volume. We are more careful than the pioneers in this field about framing discussion of cultures in terms of ethnic identity – at least we recognize that the ancients' view of themselves is not recoverable to any meaningful degree (Chs. 2, pp. 38–41; 12, pp. 311–12). We also have much more information to work with than they did. Our understanding of the Mycenaeans, for instance, has been expanded greatly by our ability to read their texts (below, pp. 11–14), and by the growing willingness of archaeologists to look beyond palaces to more mundane settlements (below, pp. 8–10). Despite all this progress, though, we face some of the same questions that Schliemann, Evans, and their contemporaries did. We still do not know who "the Minoans" were (one or more distinct groups? languages?), what happened to all areas of the Aegean in the latter part of the Early Bronze Age, or why the Mycenaean palatial system came to an end ca. 1190 BCE.

This introductory chapter situates the reader in time and space. It is essential to begin by discussing the issues of relative and absolute chronology. It also reviews some of the manifold study techniques applied to Aegean Bronze Age cultures, with illustrative examples drawn from the material in the chapters to come. The reader can thus browse the book and get a taste of what lies ahead.

Relative and Absolute Chronology

Early scholars divided the Aegean Bronze Age, like Caesar's Gaul, into three parts, with cultural labels for the inhabitants of various regions: Crete ("Minoan," after the legendary King Minos of Knossos), the Greek mainland ("Helladic," from the Greek word for Greece, "Hellas"), and the Cycladic islands ("Cycladic").[8] They also marked off three chronological divisions for each region – Early, Middle, and Late – and three subdivisions – I, II, and III. Thus one could refer conveniently to "Early Minoan III" (abbreviated EM III), or "Late Helladic I" (LH I), though MC could refer to Middle Cypriot (for the island of Cyprus) as well as Middle Cycladic. The system became noticeably less convenient when subsequent discoveries showed that real archaeological, particularly ceramic, distinctions do not always fall neatly at the boundaries between the periods. Aegean specialists today must deal with such niceties as "MH III/LH I" and "LM IIIA2 early" (Chs. 10, p. 230; 12, pp. 311, 312). Further problems develop when, for example, a type of EM III pottery is redated to MM IA (Ch. 5, pp. 109–10), or when EM III in east Crete is found to be partly contemporary with MM IA in central Crete (Ch. 5, p. 110).[9] Renfrew tried to replace this cumbersome scheme for the Early Bronze Age with cultural labels. Thus the "Keros–Syros Culture" refers to a particular assemblage of sites, artifacts, burial customs, and the like (exemplified by sites on the Cycladic islands of Keros and Syros; Ch. 3, pp. 161–3).[10] This terminology, although useful in some respects, has not replaced the conventional system. One problem is that it carries no intrinsic chronological information. Renfrew's hope was that the cultural groups would ultimately be tied into a framework of reliable absolute dates; this hope has not yet been fully realized (below). In the interim, it is hard to coordinate cultural terminology with the old tripartite scheme. The EC III period, for instance, has always been elusive in terms of finds, and recent evidence suggests that both Kastri Group (later EC II) and Phylakopi I (MC I) material were in use during this period (Ch. 3, pp. 68–70). The cultural labels cannot reflect that overlap.

Figure 1.1 shows the relative and absolute chronology for the areas and periods covered in the book. Relative chronology depends chiefly on correlations among different ceramic types found in reliable stratified deposits. As the authors of individual chapters make clear, the reality is not as certain and precise as a table looks. We can often assert that one period on Crete overlaps with one on the mainland, for example, but we never assume that they began and ended at exactly the same

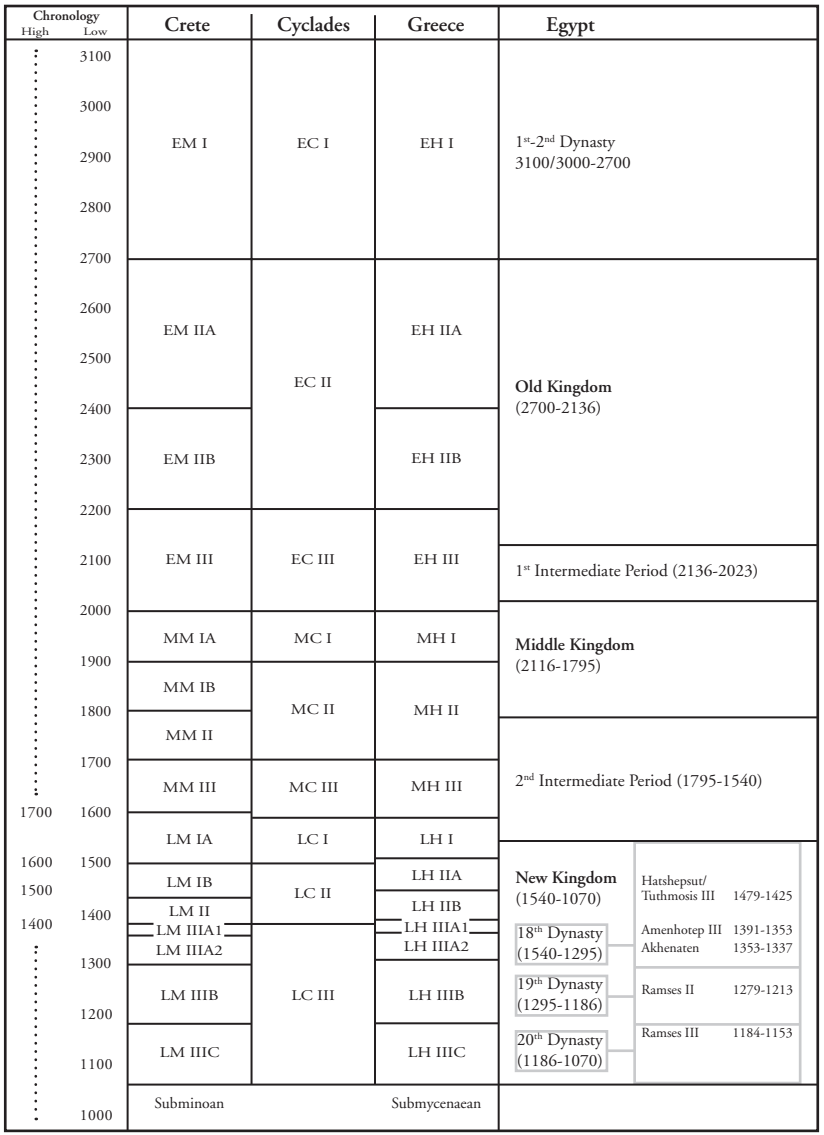


FIGURE 1.1. Table of Aegean relative and absolute chronology. Table by Dan Davis.

time. Sometimes we know that they did not. The periods LH IIA to LH IIIA2 all seem to start before their Minoan counterparts LM IB to LM IIIA2.[11] Another example concerns the Early Bronze Age on the Greek mainland: some sites and indeed whole areas apparently never

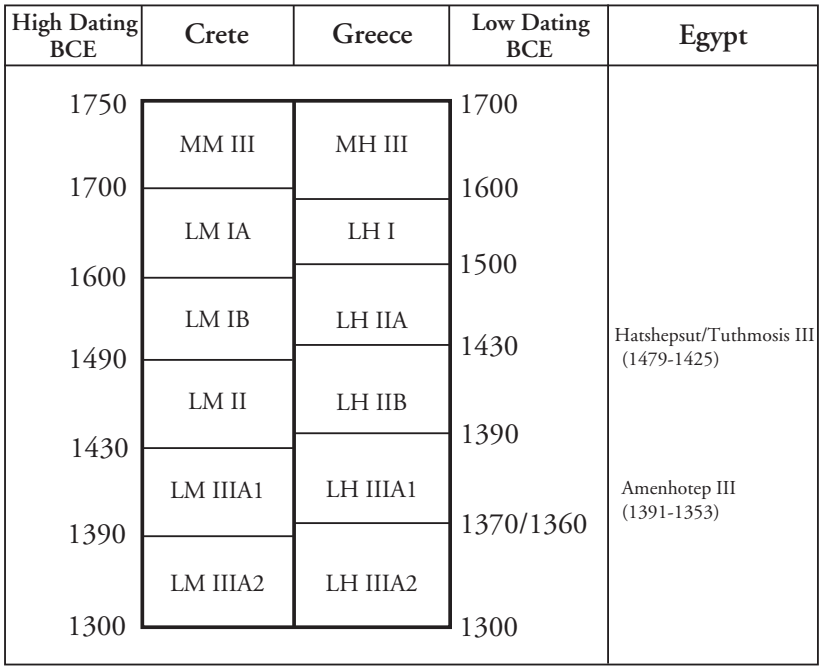


figure 1.2. Table of unreconciled high and low Aegean chronologies, MB III–LB IIIA2. Table by Dan Davis.

had the artifact assemblage of EH III (the "Tiryns culture"), but went right on using the pottery, etc. of EH II (the "Korakou culture") until the start of the Middle Bronze Age (Ch. 2, p. 36).

Far more difficult is the problem of determining absolute chronology, or actual dates for the periods under review. Considerable controversy has arisen about the beginning of the Late Bronze Age, in particular, because some ^{14}C dates and archaeological synchronisms are at variance. Figure 1.2 shows two competing Aegean chronologies for the relevant periods. The lower one is based on the traditional method of establishing ceramic synchronisms with Egypt and to a lesser extent Mesopotamia, where we find the only contemporary civilizations with long independent absolute chronologies.[12] The Egyptian sequence is based on a variety of contemporary sources, checked against later king list compilations and refined by a few astronomical observations and points of synchronism with Mesopotamia and other Near Eastern cultures.[13] The higher Aegean chronology reflects the results of more recent scientific studies, chiefly radiocarbon dating. The

radioactive carbon isotope ^{14}C decays at a known rate, so measuring how much has decayed in an organic sample can reveal when it "died." Good carbon dates are available for the third millennium BCE and earlier, but those from later periods of the Bronze Age are less certain, for reasons ranging from oscillation of the calibration curve, which can give two different absolute date ranges for one radiocarbon age, to seasonal variation in different regions, to contamination by old carbon.

These problems impact Aegean chronology particularly during the seventeenth and sixteenth centuries BCE, where the calibration curve is most ambiguous. It is clear that the volcanic island of Thera suffered a cataclysmic eruption late in the LM IA period, though likely before its very end. The tons of ash and pumice that buried the site of Akrotiri account for its remarkable state of preservation, making it a Bronze Age version of Pompeii (Ch. 8, pp. 189–93). Some carbon dating analyses place the eruption in the later seventeenth century BCE; two newly reported studies favor ranges of 1627–1600 and 1660–1613 BCE, respectively.[14] These studies have, however, faced substantial and detailed criticism.[15] In this case LM IA, which was probably about a hundred years long, had to begin around 1700 BCE. The traditional chronology, however, places this transition a century later, based on archaeological indications that LM IB was a rather short period and on material (particularly ceramic) synchronisms, for example between LM IB and the reigns of the Egyptian pharaohs Hatshepsut and Tuthmosis III (1479–1425 BCE).[16] As Fig. 1.2 shows, on the high Aegean chronology LM IB does not even overlap with those pharaohs unless LM IB (and LH IIA) lasted much longer than archaeological evidence and synchronisms would indicate. The weight of archaeological evidence thus favors the low Aegean chronology. Because both camps agree on dates from the end of LM IIIA1 onward, however, lengthening the LM IB–II periods is necessarily the solution most recently proposed by those favoring a high chronology. That solution is reflected in the high chronology shown in Fig. 1.1.[17] The problem has yet to be settled definitively, and opinions continue to differ, even among the authors of this volume.

Another scientific dating technique of interest is dendrochronology. Most trees produce one ring a year under normal circumstances, so by counting the rings (assuming all are preserved), one may learn how old the tree was when it stopped growing. Thick and thin rings also indicate years of greater or lesser growth, due to excessive drought or rain, excessive cold, disease, and the like; variations can sometimes be matched with climate events, which may be caused, for example, by

volcanic eruptions. Such analysis has been performed on tree samples from many archaeological sites, as well as modern examples. Lining up the thick and thin rings in samples of overlapping date yields long dendrochronological sequences for Europe, America, and Anatolia. It makes a difference, of course, if the sample is part of a house, in which case its archaeological find context might be years after the tree was cut down, or a branch, where the interval between cutting and deposition may have been quite short.

An instructive example of the latter is the brushwood probably used as dunnage (packing material) on the Uluburun shipwreck (Ch. 14, p. 364). One piece, a cedar branch, on which early hopes were pinned, has proved not to provide a reliable date for the sinking of the ship, because its full circumference is not preserved and because its relationship to the Anatolian dendrochronological sequence is uncertain.[18] Radiocarbon dates for the dunnage and organic materials in the cargo, however, corroborate the latest dendrochronological analyses of other brushwood. The last preserved ring of the dunnage, for example, is dated by radiocarbon analysis to 1304 ±33 BCE, whereas the dendrochronological date is 1307 +4/-7 BCE.[19] Taken together, the two types of analysis indicate that the ship sank not long before 1300 BCE.[20] Artifacts on the wreck for which dates can be suggested also fall in the later fourteenth century. The wreck includes LH IIIA but no LH IIIB pottery, though it cannot be ruled out that LH IIIB wares were already being produced in some places, especially in the trend-setting Argolid, when the ship went down. Nevertheless, the evidence from the Uluburun wreck seems in line with other indications that the LH IIIA/IIIB transition occurred in the late fourteenth century BCE.[21]

Excavation and Survey

As knowledge about the Bronze Age has increased over the past century, so have techniques for exploring and analyzing the wide variety of data that allow us to understand these cultures. Excavation and survey offer different ways of observing the sites themselves. Excavation is the oldest method of getting at past cultures and the most informative about individual sites. The ancient Greeks themselves occasionally dug up earlier remains, accidentally or on purpose. Herodotus' story (*Histories* I.68) about a blacksmith digging a well in his yard and finding a 10-foot-long coffin with a skeleton in it no doubt reflects an exaggerated version of reality. Another sign of the Greeks' awareness of the past is a

hoard of Mycenaean ivories and other artifacts from the Cycladic island of Delos. They were evidently collected and reburied as a foundation deposit for the Archaic sanctuary of Artemis in the late Geometric period (late eighth century BCE).[22]

Different kinds of sites yield different kinds of data. Prestige goods and precious materials are found far more frequently in burials than in settlements. The latter are more vulnerable to plundering and to the ravages of time, though of course tomb robbing has been an unworthy industry from antiquity to the present day.[23] Humbler artifacts such as pottery also differ in the two contexts: small closed vessels (jars and jugs) are common grave offerings (e.g., Figs. 4.2, 9.1), whereas settlements, logically enough, yield large storage jars, cooking vessels, and open shapes (cups and bowls) for eating and drinking (e.g., Pls. 4.1, 5.2; Ch. 11, pp. 273–4). Drinking vessels may also be found in or just outside tombs, indicating burial rituals (Chs. 4, pp. 80–86; 13, p. 339).

These differences have made Bronze Age burial sites generally more attractive to archaeologists and their financial backers; the rich finds from unplundered elite tombs have always made headlines. Thus for EM I Crete and LH III Greece alike, excavated material comes overwhelmingly from burial sites, not settlements (Chs. 4, pp. 79–87; 13, p. 327). Among settlement sites, of course, the Minoan and Mycenaean palaces have most captured people's imagination and have also received the most scholarly attention (Chs. 6, pp. 141–3, 146–9; 11, pp. 261–4). For the Late Bronze Age mainland, very few smaller sites have been excavated to date. Carl Blegen, the excavator of Troy, Pylos, and other sites, was a pioneer in this regard, with his excavation of Korakou and Zygouries in the Corinthia.[24] Tsoungiza in the Corinthia, Ayios Stephanos in Laconia, and Nichoria in Messenia have been the focus of more recent attention (Chs. 10, pp. 239–40, 246–7; 12, p. 303). Settlement sites such as these open our eyes to the lives of ordinary Mycenaeans, and more such excavations are much to be desired (Ch. 12, p. 308). Smaller towns and villages have been made to reveal a great deal of information about the Early Bronze Age Cyclades, for example, which offer no palatial centers to deflect attention (Ch. 3, pp. 53–6).

Another confirmation of the usefulness of lesser sites comes from archaeological survey, a development of the later twentieth century CE. Whereas excavation can reveal a lot about a single site, surface surveys identify the locations of many sites. Pottery fragments and other artifacts are brought to the surface by plowing, erosion, or even a hard rain; when their dates can be determined, they indicate the periods of human activity on a site. From such data one can get a rough picture of

settlement patterns across a region and through time. As early as 1940 Carl Blegen, prescient as ever (above, p. 8), foresaw the importance of survey archaeology. At the bicentennial of the University of Pennsylvania he spoke of

> . . . [the] urgent need, apart from further actual digging, of a systematic comprehensive survey of the districts of Greece. . . . Most of the large centers have long ago been noted, but scores, not to say hundreds, of smaller settlements still await discovery. . . . When the whole country has thus been methodically and thoroughly explored . . . , we shall know infinitely more than we now do regarding the extent of occupation and the movements and distribution of population from period to period.[25]

Archaeologists of the Aegean Bronze Age were slow to answer Blegen's call to arms. One of the first was William McDonald, who with Richard Hope Simpson undertook a survey of Messenia and southern Elis in the 1960s.[26] This was an extensive survey; they looked for sites in likely locations – such as low hilltops near sources of water – all over the region, some 3,800 sq. km., and recorded those they found. Some of their results were dramatic; for instance, they were able to identify LH IIIB pottery at 195 sites (168 of them certain), and LH IIIC pottery at only 16 (13 certain), documenting a striking drop in population at the end of the palatial period (Ch. 15, pp. 390–2, 393–4).

More recent surface exploration has taken the form of intensive surveys. Instead of spot-checking a large region, such projects concentrate on a smaller area, sampling all available types of terrain and soils, from flat coastal plains to ridgetops and the hills and valleys between. In this way they may find sites in unexpected locations, and also sites of quite small size. Breaking up the survey area into grid squares, or tracts with existing boundaries such as fences or gullies, team members collect every artifact (usually potsherds and stone tools) they find as they walk, or make careful count and keep only representative pieces diagnostic of a particular period or artifact type. Working in a small part of the area covered by the Minnesota Messenia Expedition, the Pylos Regional Archaeological Project (PRAP) increased the number of known Mycenaean sites by 50%, partly because the intensive coverage picked up many more smaller sites, under 1 **hectare** (10,000 sq. m. or about 2.5 acres) in area.[27]

This project is just one of a number of archaeological surveys that have documented regional settlement patterns in Greece, Crete, and the Aegean islands during the Bronze Age and later (Fig. 10.2), and have clarified settlement hierarchies by carefully measuring site sizes (Ch. 12, pp. 298–300).[28] In Messenia, for example, several settlements documented by PRAP are 4–5 hectares in area, about 1/4 the size of Pylos itself, and thus of the right order of magnitude to stand among the second-order centers mentioned in the Linear B tablets as district capitals in the Pylos state. Thus, though surface pottery rarely allows fine chronological distinctions within general periods (Ch. 2, p. 26), even the broad picture painted by survey work is usefully enhancing our understanding of the Aegean Bronze Age.

Scientific Techniques

Traditional forms of analysis such as stylistic study of pottery and frescoes and the scrutiny of texts continue to be essential tools for archaeologists. At the same time, technological advances have provided not only new dating techniques, but also new ways of identifying the composition and provenience of ceramics and metals, new mapping aids, and the like. This brief account is mainly restricted to techniques relevant to discussion in this volume. Many other useful advances are being applied and perfected: residue analysis of ancient vessels can identify their contents; human skeletal analysis can indicate diseases and diet prevalent in a population, and DNA study is also revealing; recovery of pollen and botanical samples can help reconstruct the ancient environment.[29] Most often cited in this volume is lead isotope analysis (Chs. 3, p. 64; 8, pp. 200–1; 9, pp. 212, 215, 219; 14, pp. 364, 375, 380). Most veins of lead in the world seem to have slightly different isotopic signatures, so it is in theory possible to match a particular artifact to a particular source. This matching can also be done for metals such as silver and copper that may contain lead, thus providing an invaluable indicator of what sources were exploited in a given period.

Chemical and petrographic analyses have opened up similar possibilities for pottery. Such studies help us trace the dynamics of contact between one group or region and another. It was a surprise, for example, to learn that the "palatial" Kamares ware pottery found in Protopalatial Knossos came from south-central Crete (Ch. 5, p. 107). Similarly, we now know that most of the inscribed stirrup jars found on Crete and the Greek mainland were made at some distance from the palaces,

though the fact that they were inscribed would suggest otherwise (below, p. 12), and come from technological traditions prevalent in western and south-central Crete (Ch. 12, p. 318).[30]

In addition to these analytical tools, new advances have also enhanced work in the field. Archaeological survey is usually accompanied by geological study of the terrain, soil and botanical studies, and the recovery of pollen through coring. Coupled with the analyses described above, such techniques allow us to reconstruct what the environment was like in a given period, whether dry or wet, forested or not, and so forth.

Also important are new ways of detecting traces of human activity, instead of or prior to excavation. Geophysical mapping uses several techniques to detect subsurface anomalies. Two often applied in Aegean Bronze Age fieldwork are magnetometry and electrical resistivity. Magnetic prospection identifies small anomalies in the earth's magnetic field, caused by the accumulation of stone or baked clay. Electric resistivity measures the resistivity of the soil between two electric probes; resistance is lower when the current passes through damper soil, higher in dry media such as stone. Detailed maps of many such readings can give clues about the size and placement of buried structures, though excavation is necessary to confirm their nature and date. Although not discussed specifically in the following chapters, all these techniques are essential components of study at most of the sites under scrutiny.

Documents

Four scripts are known from the Aegean Bronze Age: Cretan Hieroglyphic (MM IA–III), the script of the Phaistos Disc (MM II or MM III?; Pl. 7.7), Linear A (MM IB–LM IB; Pl. 7.5), and Linear B (LM II–IIIB, LH IIIA–B; Fig. 9.3; Pls. 12.2, 12.4, 13.3). The first three were used primarily on Crete (Ch. 7, pp. 173–7), though Linear A is attested in a few other places as well, chiefly on the Cycladic islands of Thera, Keos, and Melos (Ch. 8, pp. 189–97); none of them has been deciphered, chiefly because the data sets are too small. We can, however, read the Linear B documents; these are found chiefly at palatial sites on the Greek mainland, and on Crete, especially at Knossos (Ch. 12, pp. 291–2, 312–16). Cretan Hieroglyphic is a pictographic script; early scholars who observed two successive linear scripts on Crete dubbed the earlier one "Linear A," and the later one "Linear B," and these names have stuck.[31] We now know, however, that Linear B was used to write an

early form of the Greek language. Accounts of the fascinating process by which a young British architect, Michael Ventris, deciphered it are well worth reading.[32] All four scripts are syllabaries, with 80–100 signs standing for syllables. Supplementing the syllabic signs are logograms, often referred to as "ideograms," standing for a whole word such as "sheep," "man," or "bronze," and signs for numbers (including fractional signs in Linear A), weights, and liquid and solid measures.

Inscriptions in Cretan Hieroglyphic, Linear A, and Linear B occur principally on clay bars (Hieroglyphic), tablets (Linear A and B), and labels, into which they were incised with a sharp stylus. Most numerous and most informative are the tablets, which come in two varieties: the briefer leaf-shaped, or elongated tablet, wider than it is tall, and a page-shaped type, taller than it is wide, containing more information (Fig. 9.3; Pls. 12.2, 13.3).[33] Labels are small lumps of clay; they could be affixed to objects, doors, boxes, baskets (with the impression of the container preserved on the reverse of the label), etc.[34] Some were pressed around a string which was tied around an object or group of objects, such as the Linear B label Wm 1714 from Knossos, which bears the inscription "30 garments of medium quality." In addition to their text, which identifies the object(s) by type, origin, or other factor, some labels bear an impression stamped into them by a sealstone or seal ring. These labels, called **sealings**, were a form of certification that an official had received, or verified, the object(s) in question (Fig. 1.3). Indeed, uninscribed sealings represent the earliest signs of administration, going back to the Early Bronze Age (Chs. 2, pp. 30, 34–5; 5, p. 108; Pl. 2.1).

Protopalatial and Neopalatial Minoan administrators used a greater variety of sealings than their later Mycenaean counterparts. Moreover, it appears that literacy itself was more widespread in Minoan Crete than in the Mycenaean Greek world. Cretan Hieroglyphic and Linear A appear on a variety of objects in different media, and at different kinds of sites, including votives left at peak sanctuaries. The backs of some Minoan sealings preserve the impression of folded leather, probably parchment documents (Ch. 7, p. 175; Pl. 7.6). No evidence of such texts has come to light from mainland Greece, and indeed it appears that the use of Linear B was much more restricted. Inscriptions occur on some transport LH IIIA–B stirrup jars, most associated with the ceramic traditions of west and south-central Crete (Pl. 12.4; above, pp. 10–11). These jars have been found at various places in Crete and on the Greek mainland, chiefly in Boeotia and the Argolid (interestingly, not in Messenia, which was also home to a major Mycenaean state).[35]

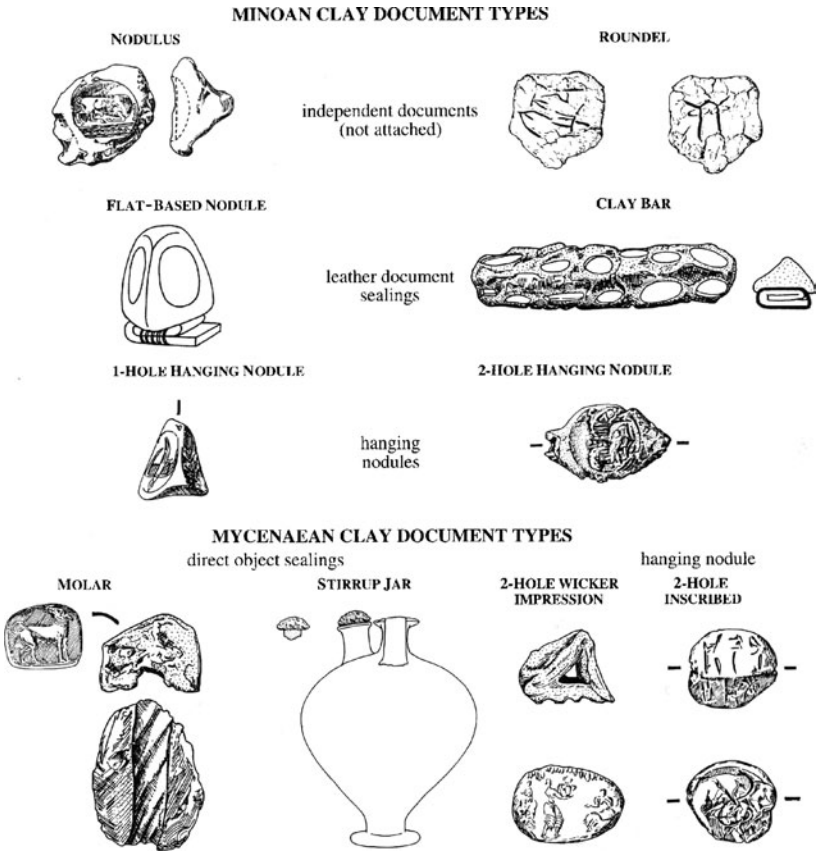


FIGURE 1.3. Minoan and Mycenaean document types. P. Rehak and J. G. Younger, "Review of Aegean Prehistory VII: Neopalatial, Final Palatial, and Postpalatial Crete." In *Aegean Prehistory: A Review*, edited by T. Cullen. AJA Suppl. 1. Boston: Archaeological Institute of America 2001, 405 fig. 5. Courtesy of John Younger.

The tablets and labels, including sealings, compose the vast majority of inscribed documents. To date these are known only from major administrative centers. Furthermore, they reflect only a single year of administration, and were not intentionally fired; they only survive because these sites suffered burning destructions. On present evidence we are left to conclude that unlike the Minoans, the Mycenaeans used writing exclusively for economic administration; as far as we know, they did not record laws, dedications, correspondence, or any other kinds of documents. No evidence suggests that they used parchment, as the Minoans did (above, p. 12; Ch. 7, p. 175). It follows that literacy

was not widespread, and that a scribe may have written a tablet as an *aide-mémoire* only for himself and other scribes to read. Some 40 scribes are distinguished by their handwriting at Pylos, and 100 at Mycenaean Knossos, but some wrote just one surviving tablet, whereas only a few were quite prolific.[36]

Thanks to the decipherment we can say a little bit about the Mycenaean Greek language. Because the approximately syllabic signs of Linear B are all open syllables (those that end in a vowel, such as *a*, *da*, *pe*, *to*) it is not well suited to Greek, where many words end in consonants. The script derived from Linear A (and Hieroglyphic?), probably on Crete during LH II, the formative period of interaction between Crete and the mainland (Chs. 10, p. 252; 12, p. 316). About 2/3 of the signs have near equivalents in Linear A; the remainder were probably invented to accommodate the sounds of the Mycenaean language.[37] Because the tablets are exclusively administrative records, they tend to be lists of people and commodities, so nouns are much more common than verbs. Enough word forms are preserved, though, to show linguists that Mycenaean was an East Greek dialect, whose closest similarities are with the Classical Greek dialects of Arcadia and Cyprus.[38] Mountainous and remote, first-millennium Arcadia preserved a dialect probably already established in the Late Bronze Age. Mycenaean speakers may have brought the dialect to Cyprus, moving there during the twilight years of the Bronze Age, after the palaces collapsed (Chs. 14, pp. 376–7; 15, pp. 395–6, 407).

Prehistoric History

Although the book of progress may never be closed in this field, periodic attempts have been made to synthesize the current state of Aegean Bronze Age studies, for students, for colleagues in other disciplines, and for interested people generally.[39] The task is never simple: new discoveries and priorities can make any survey outdated in a short time, and many aspects of the field involve sets of interlocking technical knowledge that are difficult to explain in a way that is both clear and thorough enough to be useful. These difficulties, though, make it all the more necessary to try. The Aegean Bronze Age deserves better than to remain the arcane province of a few specialists; the complexities of this fascinating period are just as worthy of general attention and interest as the rudiments of the field were in Schliemann's day. In this spirit the contributors to this volume present their account of what is known – and not

known – about their various specialties, at the start of the twenty-first century CE. The Bronze Age is still often called "prehistoric," because the texts – and our ability to read them – are so limited. Yet the emphasis here is historical. Rather than focusing on artistic analysis or anthropological case studies, this volume seeks to lay out in basic form what we know about the cultures of the Aegean Bronze Age and how they developed and interacted. It is our hope that students will be able to use it in courses, and that colleagues and other interested readers will find it a helpful introduction to the current state of knowledge in this field.

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Notes

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2: The Early Bronze Age in Greece

Daniel Pullen

Introduction

The chronological span of this chapter is the late fourth, the third, and the early second millennium BCE, i.e., the Final Neolithic, Early Helladic, and early Middle Helladic periods. The Early Helladic period was approximately 1000–1100 years in length, as long as the Middle and Late Helladic periods combined (Fig. 1.1). During the Early Bronze Age on the Greek mainland, small-scale complex societies emerged in a number of regions. This experiment in complexity held promise, but sweeping changes brought it to an end during the later part of the EH period. These changes have been connected with the "Coming of the Greeks" (that is, Indo-European speakers) as precursors to Mycenaeans of the later Bronze Age. This chapter surveys the archaeological data and interpretations of that data from the Greek mainland for the period spanning from the end of the Neolithic to the beginning of the Middle Bronze Age, including the problem of the "Coming of the Greeks" (below, pp. 38–41).

Study of the EH period began with Carl Blegen's excavation at Korakou, near Corinth, in 1916–1918.[1] The well-stratified remains allowed him to isolate ceramics of the various periods of the Bronze Age and, along with Alan Wace working at Mycenae, to devise a classification of the ceramics of the pre-Mycenaean period, the Early and Middle Bronze Ages.[2] The excavation of several important sites with EH remains, such as Tiryns, Asea, and Zygouries, contributed additional information, especially about architecture. The picture of the EH period changed fundamentally, however, with the excavation of Lerna in the 1950s. There, the stratigraphy was detailed enough to enable a more precise ceramic chronology to be devised, divided into

the basic three subphases of the EH period we continue to use today (Ch. 1, p. 3). In addition, the remarkable discovery of the House of the Tiles with its deposit of **sealings** (lumps of clay impressed by a seal; Fig. 1.3) brought to light aspects of social complexity and economy not seen before on the mainland at such an early period (below, pp. 33–5).

Archaeological work on the Bronze Age has concentrated on the southern and eastern portions of the mainland, in large part because the Argolid and Corinthia in the eastern Peloponnese, Attica, and Boeotia were the locations of significant Bronze Age activity. Some information is also available, however, about the rest of the Peloponnese, the Saronic Gulf, Euboea, and southern Thessaly. This broad region encompasses great variety in environment, settlement history, and culture. Data from both excavations and landscape studies are abundant, though we often lack the right kind of information to answer specific questions. The rise of surface survey and landscape archaeology in the Aegean has given us the tools to ask different sorts of questions about the cultures we study, and the intensive survey coverage of many areas within the region under review allows comparisons to be made on a regional scale (Ch. 1).[3]

The Final Neolithic Antecedents

The Final Neolithic (FN) has not received much attention, and no well-stratified Final Neolithic to Early Helladic sequence has been published, though there are strong indications of continuity between the two periods. Surface survey (landscape archaeology), however, has contributed significantly to our understanding of the dynamics of the FN period. We see an increase in the number of sites and an increase in the variety of locations for these sites throughout most of the eastern Peloponnese. In the Berbati Valley, an interior valley near Mycenae, nineteen certain and four possible FN sites have been reported, substantially more than the one or two sites of earlier Neolithic phases.[4] They lie not only in areas of well-watered agricultural land in the valley, but also in uplands where agriculture would have been rain-dependent, and at even higher elevations where pastoralism would have been practiced. Reassessment of material from the southern Argolid survey leads to the conclusion that during the Late Neolithic period, only Franchthi cave saw occupation.[5] The survey publication includes seven definite and six probable sites of the FN period for a total of thirteen;[6] several are

caves or rock shelters, but the remaining are open-air. The dispersal of small FN settlements into areas on or near deep brown soils suggests a shift to rain-dependent agriculture, whereas the presence of several sites in high upland areas suggests the increased importance of pastoralism. Indeed, this period of time was exactly when the Secondary Products Revolution took off in Greece.[7]

Because this pattern of expanded settlement in the FN period is derived from surface survey, it masks the problem of the long duration of the FN period (at least 1,000 years), the recognition of several phases within it, and the contemporaneity of the settlements. The long FN period is divided into two major ceramic phases, but finer resolutions have not always been possible.[8] Much of the FN pottery is coarse ware and not closely datable. Many survey sites have therefore been dated simply FN, or even FN–EH I, because surface finds of pottery from the two periods are often similar. The majority of FN sites identified in the southern Argolid survey were also used in EH I, further complicating the picture. Comparison of the excavated Franchthi cave FN ceramics with those from the southern Argolid survey and Halieis excavations points up the problem. There are few similarities, and it appears that the Halieis FN material had more connections with the following EH I period than with earlier Neolithic traditions.[9]

If the number of sites did increase significantly in the long-lasting FN period, did they all exist at the same time? At least seven of the thirteen identified FN sites from the southern Argolid survey are within 3 km of Franchthi cave. Five of these sites are located within 1 km or less of another, along the low hills that surround the Koilada Bay opposite Franchthi. Occupation may thus have shifted over the centuries represented by the FN period. The apparent increase in number of sites is not so great, if it includes successive locations of a single community. Still, site numbers increased from the preceding LN period in both regions, and there is a significant shift to more marginal locations such as highlands and hill slopes.

Early Helladic I

The Early Helladic I period was defined at the central Greek site of Eutresis, as the culture group term "Eutresis culture" for the EH I period indicates.[10] In ceramic terms the period is characterized by unslipped and burnished or red slipped and burnished pottery, first noted at Korakou.[11] Recent work at sites near Argos, in the Asine region, and at

Tsoungiza has brought about a better understanding of the EH I period in the Argolid and Corinthia.[12] The Talioti phase, named after a site in the Argolid and identified throughout the northeast Peloponnese, was originally dated to the end of the EH I period, but it may cover the entire EH I period for this area.[13] This suggestion helps fill the gap between the later FN sites such as Halieis and the EH I sites such as Tsoungiza. Characteristic of the Talioti regional ceramic assemblage is the fruitstand (Fig. 2.1), a wide spreading bowl on a tall cylindrical stand, often decorated with incised, impressed, stamped, plastic and impressed, or cutout decoration. Volcanic minerals, especially gold "mica," often found in the southern Argolid and Saronic Gulf in EH I, help define another sphere of interaction, but whether these stylistic links reflect other cultural and social dynamics is unclear.

Evidence for synchronisms is the presence in EH I contexts of "frying pans," a vessel of unknown function that originated in the Cyclades (Ch. 3, p. 60).[14] Frying pans in the Cyclades were prominent grave goods, however, whereas on the mainland many fragments are found in domestic contexts. (A word of caution, though: most of our Cycladic evidence comes from tombs, but our knowledge of the Early Bronze Age mainland comes from settlements.) Regional patterns in form and decoration may suggest different patterns of contact between areas of the mainland and the Cycladic Islands. Thus the EH I frying pans from Tsoungiza have barred handles, common in the Cyclades but rare on the mainland, and the decoration of large central impressed stars with stamped spirals between the arms that extend to the edge are found at Tsoungiza, at Asea, and in the Cyclades, but rarely in Attica. Most of the similarities of EH I mainland ceramics are with what is called the "Kampos culture" of the Early Cycladic I period (Ch. 3, pp. 60–1, 63–4).

Settlement patterns also reflect the regional diversity of other aspects of EH I cultures. Both the number of sites and the range of sizes of sites grew from the FN, and environmental settings also changed. There is substantial continuity in site choice between FN and EH I, but certain types of locations were abandoned, indicating changes in economic practices. Generally, the number of settlements in coastal regions increased at the expense of settlements in the interior, and lower hills were preferred over higher elevations. One possibility is a shift away from pastoralism to a greater emphasis on agriculture, perhaps in conjunction with new agricultural technology, as seen in the succeeding EH II period. Certain sites within a given region are much larger than others, suggesting the beginning of settlement hierarchies.

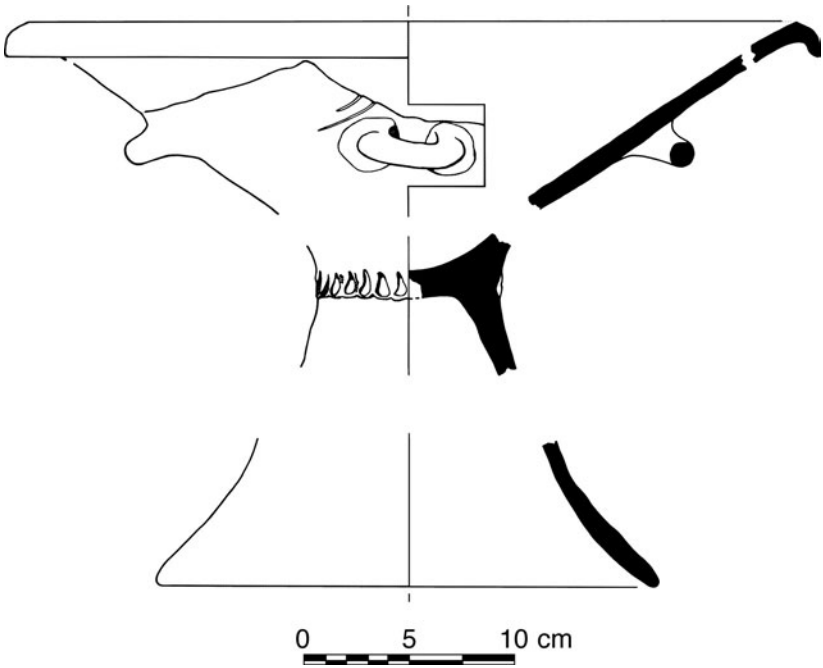

figure 2.1. Fruitstand (composite reconstruction), EH I. Drawing by Julia E. Pfaff. Courtesy of the author.

Within the Argolid, two regions illustrate different trajectories. In the interior Berbati Valley the absolute number of find spots with EH I material decreased to eleven, from nineteen with FN material.[15] But in dealing with surface survey evidence, one must consider such factors as the length of the period represented by the material, its density and variety, natural geological and human-induced changes in the landscape affecting the material, and the vagaries of survey methodology. A simple correction factor, using the number of sites per century of the chronological period, reveals a different story: a slight increase from 1.4 sites per century in FN to 2.75 sites per century in EH I. Only six of the FN sites continued with material of EH I; thus nearly half of the EH I sites in the Berbati Valley were new foundations. More significant is the shift from uplands and hill slopes to lower slopes. In contrast, the number of EH I sites in the southern Argolid greatly increased (to twenty-five certain and seven probable sites, or from 1.0 sites per century for FN to 8.0 sites per century for EH I). Again different environmental settings were preferred in EH I, especially coasts, valley bottoms, and low hill slopes. The increasing importance of coastal sites may be a reflection of

increasing contacts among regions and the need for access to resources not locally available.

EH I levels are so far below the modern surface in most cases, and often so much obscured by later habitation, that we know virtually nothing about constructions of the period. The little evidence we do have consists, for example, of a few pits and a cistern of at least 4 m depth at Tsoungiza; portions of two walls, one of which curved to surround a large deep pit, and a room (House 9) with a width of ca. 3.25 m. at Eutresis; and a few walls and an earthen bank at Perachora: Vouliagmeni.[16]

A surprising number of mat impressions are preserved on ceramics of the EH I period.[17] Along with other evidence for textile production, such as spindle whorls, these provide a welcome look at one aspect of the material culture other than ceramics themselves. Twined, simple plaited, and diagonal plaited mats are all apparent at sites in the Argolid and Corinthia. At Tsoungiza, most impressions are found on the flat bases of large bowls manufactured in the same fabric as the EH I fruitstands. Perhaps the mats aided in the rotation of the pots during manufacture, functioning as a form of tournette. Most spindle whorls from EH I contexts at Tsoungiza fall squarely within the type and proportions of the most common kind of spindle whorl for the EH period, though they tend to be slightly heavier and thus perhaps indicate a slightly coarser yarn.

Metal objects are extremely rare in the EH I period. A small dagger from Tsoungiza (Fig. 2.2) shows that by the end of the EH I period the dagger was certainly part of the mainland's material culture.[18]

Early Helladic II

EB II has long been recognized as a period of much cultural and social innovation throughout the Aegean. Monumental architecture, fortifications, metallurgy, differential access to wealth – we can observe these and other significant cultural achievements in many regions. There was also much interaction within and among the regions, characterized as an "international spirit" (Chs. 3, p. 64; 4, p. 89; 9, p. 212).[19] The long EH II period probably lasted about five centuries (Fig. 1.1); a short phase transitional from EH I (called EH II Early at Tsoungiza) precedes the two longer phases EH IIA and B, which are perhaps of similar duration.

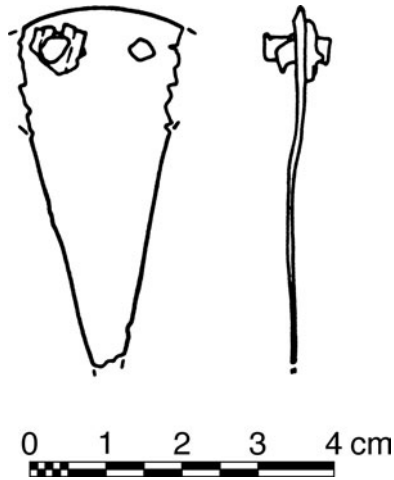

figure 2.2. Dagger from Tsoungiza, EH I–II Early. Drawing by Julia E. Pfaff. Courtesy of the author.

The site of Lerna, excavated by John Caskey in 1952–1959, preserves a well-documented stratigraphic sequence spanning from EH IIA well into the Middle Helladic period.[20] Although the stratigraphy of Lerna clarified the Early Helladic sequence, making Lerna the generally accepted type site, it did mask important regional differences and historical trajectories. Eutresis, dug by Hetty Goldman in 1924–1927, had previously served as the major type site for the EH II period.[21] A number of other sites, such as Tsoungiza, Tiryns, Thebes, Kolonna, and Ayia Irini (Keos), supplement the sequences at Lerna and Eutresis. The EH II sequence at Lerna (Lerna period III) has been divided into four phases, A through D, with phases A–B falling into EH IIA and phases C–D falling into EH IIB. It must be remembered that these phases and the subdivisions of the EH II period are most often based on ceramic change, and may not reflect social change. Nonetheless, some differences are readily apparent between the earlier and later portions of EH II. EH IIA saw a number of cultural innovations, whereas EH IIB, in the Peloponnese at least, was the period of the corridor houses; the most famous example of these is the House of the Tiles at Lerna (below, pp. 33–5).[22] Central Greece (Euboea, Boeotia, Attica, and Keos), however, experienced an influx of West Anatolian-derived ceramic traits in EH IIB, known as the Kastri Group or Lefkandi I (below, pp. 35–6). The Lefkandi I assemblage then merged with the local EH II of central Greece and adjacent areas to create a distinctive

regional assemblage that spread into the Peloponnese as the EH III material culture (below, pp. 36–8).

Early Helladic IIA

The transition from EH I to EH II was rapid but without apparent disruption. A large quantity of ceramics from a small structure at Tsoungiza provides a glimpse of some of the changes, including the disappearance of the fruitstand and several fabrics used in EH I, the appearance of that shape so characteristic of the EH II period, the sauceboat (Fig. 2.3), the development of ring bases, and the shift from slipped and burnished surface treatments to the black semilustrous slip known as **urfirnis** and other similar surface coatings.[23] This transitional period at Tsoungiza is not well represented at most other sites, so we do not know what other cultural or social changes may have accompanied this rapid shift in ceramics.

The number, location, and size of settlements continued to change in the EH II period, but growth was at a much lower rate, and some regions had fewer sites. Material from surface surveys is often not amenable to finer chronological distinctions, so although we can discuss changes between EH I and EH II, we cannot always use surface survey data to discuss changes within EH II. In the Berbati Valley the absolute number of find spots with definite EH II material increases slightly from eleven to twelve (though three sites have only one item), but this represents a decline from 2.75 to 2.4 sites per century (1.8 if sites with only one item are excluded). Perhaps more significant is that only six of the EH I sites have definite evidence for EH II.[24] A number of EH I sites were thus abandoned and new, nearby sites were founded in EH II, suggesting changes in agricultural practices and perhaps some nucleation. Site size is difficult to determine from survey results, but coupled with less common and perhaps more prestigious goods such as roof tiles and decorated hearth rims, one can suggest that at least three sites were larger and had more access to a wider range of goods than other sites in EH II, compared to the relatively undifferentiated picture in EH I.

In the southern Argolid, twenty-eight certain and six probable EH II sites or 6.8 per century represent a decrease from 8 per century in the EH I period.[25] There are twenty-six additional find spots of EH II ceramics, yielding 30.0 find spots per century for EH II, an increase from 10.5 in EH I.[26] These figures are deceptive, though. A

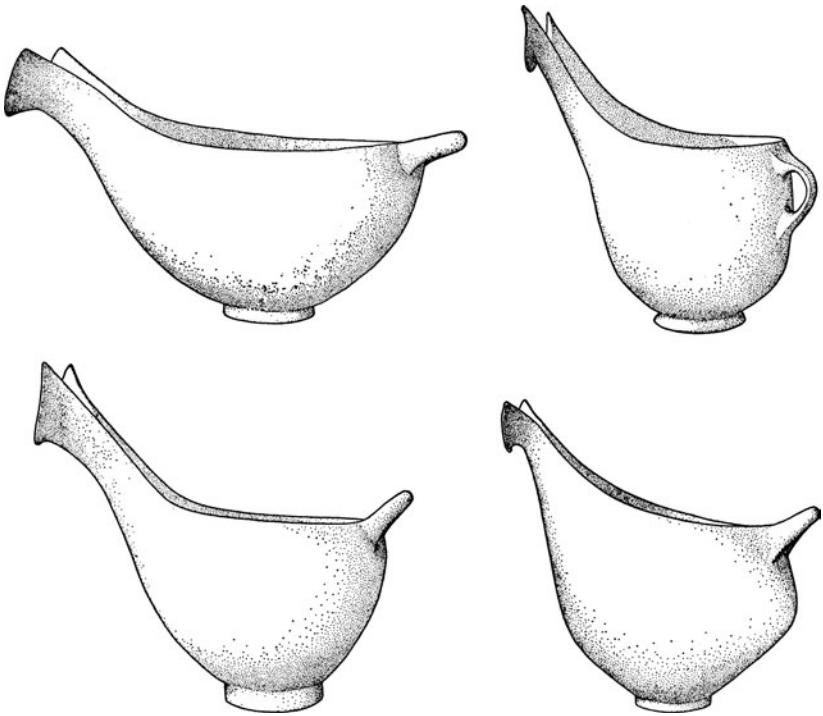

figure 2.3. Sauceboats from Lerna, EH II. J. L. Caskey, "The Early Helladic Period in the Argolid." *Hesperia* 29 (1960) 291 fig. 1. © American School of Classical Studies at Athens. Courtesy of the Trustees of the American School of Classical Studies at Athens.

significant number of the sites (eleven) and find spots are clustered in one area of the Phournoi Valley, the "Phournoi Focus," and represent differential access by the survey teams to noncontiguous tracts of land in the modern village.[27] The evidence from the southern Argolid suggests a hierarchy of sites, based not only on site size and density of materials but also on the range of materials represented at each site and the distribution of sites relative to one another. Several regions within the southern Argolid itself were each dominated by one larger site. This hierarchy has been identified as having two, three, or even four levels.[28] The real issue is not the number of levels in a perceived hierarchy of site size as discovered by archaeologists, but whether or not this hierarchy reflects social, economic, or political hierarchies of the past (below, pp. 28–30).

New agricultural practices accompanied the changes in settlement locations in EH II. The plow, indirectly attested by the presence

of terracotta yoked oxen figurines at Tsoungiza and by the expansion of settlement into deep soils of the low hills and uplands, would have facilitated the opening up of additional farming territories in areas of heavy soil and increased efficiency. Control of the capital equipment of a pair of oxen and a plow was one method by which certain individuals or groups could differentiate themselves from others, at least economically.[29] The use of animals for traction is another feature of the Secondary Products Revolution.[30]

Excavations of EH II sites such as Lerna have not often extensively exposed the earlier phases of the period. A few sites of the EH IIA period, Eutresis, Lithares, and Tsoungiza, do supply architectural evidence. At Eutresis, House I is a typical rectangular EH II structure of stone foundations and presumed mud brick superstructure with one larger room nearly square (5.00 × 4.30 m.) and a smaller room (4.05 × 2.27 m.). The entrance was into the larger room on the long side of the freestanding building. The larger room held a built hearth in one corner; the hearth in the rear room was less well built. Ground stone tools (including grinders and querns), a copper chisel, and a marble bowl were found, along with pottery of both tableware and cooking pot varieties. A very different type of settlement was revealed at Lithares.[31] Atop earlier walls of probable EH I date, the EH IIA settlement was organized on either side of a long (67 m. preserved) street oriented roughly east–west. The walls were very close to the surface, so the upper portions of walls and doorways were not preserved. In addition, the use of shared walls made grouping of rooms into individual units difficult, but Tzavella-Evjen was able to suggest some twenty houses, 22 to 44 sq. m. in size, composed of one to four rooms. A number of the rooms had stone benches; only six rooms had built hearths in them. One significant concentration of objects at Lithares was the group of sixteen terracotta bull figurines in one room of House Z. This "sanctuary" (even "Sanctuary of the Bulls"), as it quickly came to be known, is the only room with walls preserved high enough to determine that a doorway led from the street directly into it. We know virtually nothing of Early Bronze Age religion and beliefs, and interpretations of the figurines from Lithares should, as Tzavella-Evjen notes, be cautious.

At Tsoungiza, House A (Fig. 2.4), a well-preserved building originally excavated in the 1920s by J. P. Harland, provides some welcome evidence for the beginnings of monumental architecture in the Early Bronze Age Aegean.[32] It measures 9.15 × 6.10 m., in itself not very large, but the plan and construction do stand out. There was a relatively

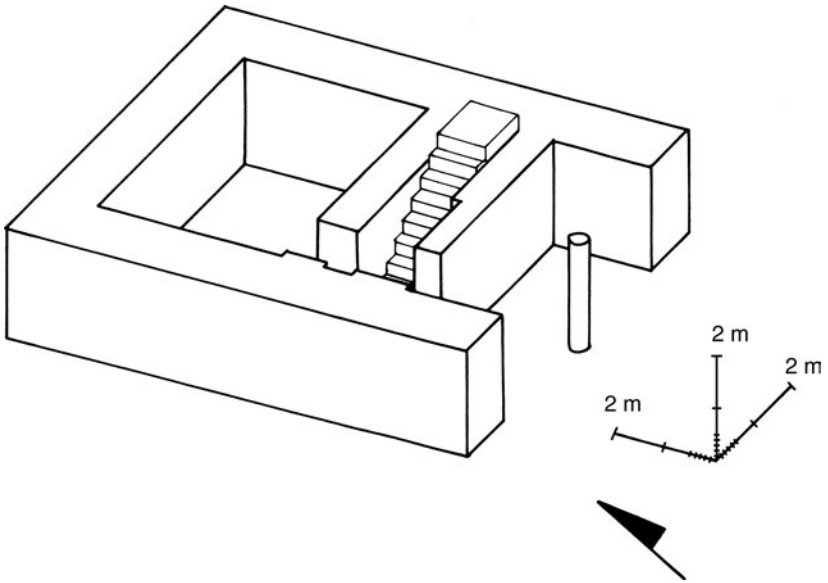

figure 2.4. Reconstruction of House A at Tsoungiza, EH IIA. Drawing by the author.

clear, open area on the two sides of the building built on the level top of the hill. The walls are 1.00 to 1.10 m thick, similar in thickness to the walls of the later two-story House of the Tiles at Lerna, but much wider than the usual 0.60–0.70 m for single-story buildings. Unlike the typical rectangular structure such as House I at Eutresis, House A at Tsoungiza has on one end a shallow porch with a central post, a narrow dead-end corridor or vestibule, and a large, nearly square main room. The narrow space between the porch and main room may have held a ladder or steep staircase to an upper floor, and thus the porch with its support would have had a balcony of sorts. If the very thick walls did not support a second floor, perhaps they upheld a roof of terracotta tiles or served as a terrace for the building, as it is built partly on a slope (the stone rear wall of the building reached 1.75 m in depth). Features of House A that are found in the later corridor houses of EH IIB include the front porch that emphasizes the main entrance, doorways set not on the central axis but to the side, and the narrow corridor space (here, though, not on the flank of the building, but inside). But House A represents a very early form, and thus its plan may be only one example of experimentation that led ultimately to the developed corridor house as seen in the House of the Tiles at Lerna (below, pp. 33–5).

Besides the first steps toward monumental architecture, we see in EH IIA the early occurrence of other features characteristic of and more developed in EH IIB, such as the administrative use of seals and sealings, widespread metallurgy, and the beginnings of social complexity. A lead seal from Tsoungiza (Fig. 2.5) suggests early stages of administrative practices seen more widely in EH IIB,[33] and a mold for casting a chisel and a pin indicates the production of metal objects at this small inland site. Communal, or large-scale, feasting and drinking are activities often associated with attempts by chiefs to consolidate their power over their constituencies (Ch. 5, pp. 107, 125–6). Evidence for specialized drinking assemblages has been found at Tsoungiza in the "Burnt Room," where the ceramics included sixteen small bowls for drinking and two jugs or pouring vessels.[34] A number of stone tools and blades were also found, but no evidence for their manufacture. The botanical evidence suggests food preparation, perhaps in a final stage, but there was no storage or hearth, and only one grinding stone. Thus the Burnt Room does not represent a typical domestic context, but rather one for large-scale drinking. The development of the sauceboat (Fig. 2.3) for pouring a specialized product, perhaps wine, was no doubt also part of this new emphasis on communal feasting and drinking.

Early Helladic IIB

The later portion of Early Helladic II was marked by the development of the corridor house and fortifications, consolidation of settlement, and increased visibility of a number of cultural features such as the use of seals and sealings. Most likely these various attributes represent increasing social complexity and the development of small-scale chiefdoms. These chiefdoms are of special interest and importance, because they represent the most complex social and political organization seen on the Greek mainland until the beginning of the Mycenaean period several centuries later (Ch. 10, pp. 244–51).

There is some evidence for nucleation of settlement at this time, though EH II surface survey pottery is difficult to date more precisely by phase. Some smaller sites, such as Tsoungiza, Synoro, and Makrovouni in the Argolid and Corinthia, and Lithares in Boeotia, were abandoned by the end of EH IIA or early in EH IIB, suggesting that people may have moved to other places.

The architecture of EH IIB sites (indeed of EB II sites in general) was more sophisticated than any that had appeared before. Large-scale

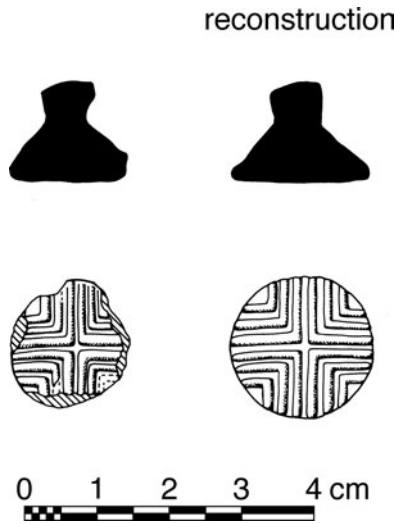

figure 2.5. Lead seal from Tsoungiza, EH IIA. Drawing by Julia E. Pfaff. Courtesy of the author.

fortifications surrounded even small settlements. The corridor house is found at sites from Akovitika in Messenia to Thebes in Boeotia, suggesting common architectural practices throughout the entire region, though not the same regions as those defined by other cultural markers, such as ceramics.

Fortifications have been reported for a number of Early Bronze Age sites throughout the Aegean, primarily on coasts; Thebes was the only fortified inland site on the mainland, but fortifications have been reported at several coastal sites in Attica, including Asketario and Raphina, the Manika and Karystos region in Euboea, Kolonna on Aegina, Perachora and Vayia in the Corinthia, and Lerna and Vassa in the Argolid. The fortifications at Lerna (Fig. 2.6) had a long history of building, rebuilding, and modification, but essentially their form is that of two parallel walls set a little over 2 m apart, with cross walls dividing up the intervening space into rooms.[35] Various forms of towers, solid and hollow, projected from the exterior and guarded a low staircase leading up to the entrance. The gateway was apparently a simple doorway into one of the fortification rooms, with a similar door on the opposite wall leading into the interior of the settlement. Thus the Lerna fortifications are very different from those of Troy level II with its separate gate buildings and single lines of wall. The recently discovered site of Vayia, on the Saronic Gulf coast of the Corinthia,

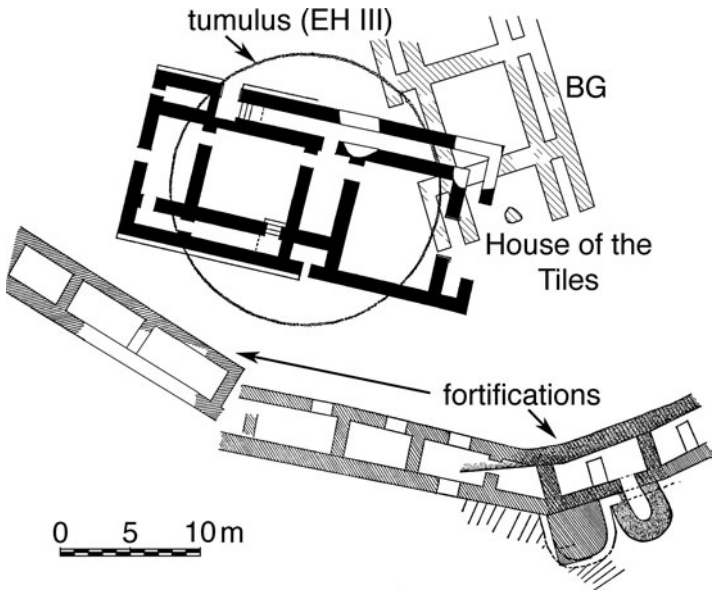

figure 2.6. Plan of major features of EH II Lerna. After J. L. Caskey, "Excavations at Lerna, 1957." *Hesperia* 27 (1958) 128 fig. 1. © American School of Classical Studies at Athens. Courtesy of the Trustees of the American School of Classical Studies at Athens.

indicates the important correlation of harbors and fortified sites.[36] On a low peninsula between two good harbors, Vayia is a small site with towers and connecting walls. It commands views of the entire western Saronic Gulf from Salamis to the Corinthian plain, areas not visible from Kolonna on Aegina, presumably the most important and powerful site in the region.

Much more architecture survives from this phase of the Early Bronze Age. The corridor house is rightly emphasized as one of the most important features of the EH II period.[37] These structures embody many sophisticated cultural and social ideas, and represent the first monumental architecture on the mainland, though calling such modest-sized buildings "palaces" is inappropriate given the modest scale and complexity of the society. Corridor houses have been securely identified at Akovitika (Buildings A and B) in Messenia, Kolonna (the Haus am Felsrand and the Weisses Haus) on Aegina, Thebes (the Fortified Building) in Boeotia, and Lerna (Building BG and the House of the Tiles) in the Argolid. Additional corridor houses have been suggested at Zygouries, Perachora, Asea, the Argive Heraion, and Eutresis, but

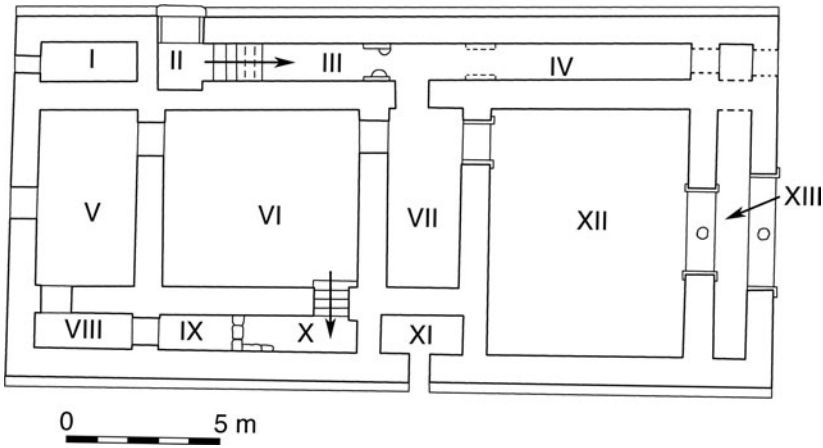

figure 2.7. Plan of the House of the Tiles at Lerna, EH IIB. After M. H. Wiencke, *Lerna: A Preclassical Site in the Argolid. Results of the Excavations Conducted by the American School of Classical Studies at Athens* IV: *The Architecture, Stratification, and Pottery of Lerna III*. Princeton: American School of Classical Studies at Athens 2000, I, Fig. 1.3a. © American School of Classical Studies at Athens. Courtesy of the Trustees of the American School of Classical Studies at Athens.

the evidence for the last four is rather meager. A careful consideration of the relative dating of all the corridor houses is needed for a full understanding of the development of these important buildings.

The first discovered and best preserved example of a corridor house is the House of the Tiles at Lerna (Figs. 2.7 and 2.8). It was built over an earlier, less-developed corridor house, Building BG, which was contemporary with the fortifications (Fig. 2.6).[38] Overall the structure measures about 25 × 12 m. The largest room (XII), on the east side, had a monumental entrance (XIII), probably with a wide opening supported by a post like the early House A at Tsoungiza, in front of double doors. The doorways into this room were sheathed in wooden jambs; only one other doorway, the north exterior doorway (II) to a staircase (III) leading to the space above the large eastern room, was elaborated in a similar fashion. The walls of the eastern room too were distinguished with two different coats of mud plaster, the later of which was scored by lines into panels. The second staircase (X), accessed only from the rear large room (VI), led to the space above the rear room. The building was thus divided into a more public and elaborated front eastern half and a more private western portion with more restricted access. The building gets its name from the baked terracotta roof tiles (some are of schist) found in abundance in the burnt debris of the structure. Such

roof tiles, the first anywhere in the Mediterranean if not the world, are found at a large number of EH II sites, and are perhaps one indication of a site's wealth, indicating that it had greater access to goods than others.

The House of the Tiles was, unfortunately, relatively empty at the time of its destruction, perhaps because it was under construction or refurbishment (the fortifications, referred to above, p. 31, went out of use before its construction). A number of items in Room XI, though, do indicate complex economic, social, and administrative behaviors. This small room was accessible only from the exterior. Inside were found a number of clay sealings, which were used to secure jars, baskets, boxes, and perhaps doorways (Pl. 2.1). The large number (70) of different seal designs represented shows that a large number of people were involved in stamping the closings. Rather than all of the commodities or containers sealed being stored in Room XI, it may have been that a number of the sealings themselves were stored on shelves, as in an archive, in order to preserve the identities of the individuals involved in the transactions that the sealings represented. In most ancient Mediterranean and Near Eastern societies seals were the property of an individual, and served as his "signature" or mark. A large number of excavated EH II sites in the Peloponnese and central Greece have yielded evidence for seals, sealings, or other seal-impressed objects.[39] The few containers from Room XI would not have stored bulk goods such as grain, but rather more valuable goods such as processed foods, nonlocal raw materials, or finished craft products.

Through such clues we are beginning to understand the social organization of EH IIB society. A number of different lines of evidence, including settlement size and distribution, presence of seals and sealings, the corridor houses, and burial evidence, all point to a "chiefdom" type of social–political organization. In a chiefdom, an elite controls many resources, such as exotic goods (metals perhaps in the Early Bronze Age), services (specialized craft workers), and ideas (access to the ancestors or divinities). The chief maintains his position through the distribution of these resources to certain individuals who, pledging their loyalty in return, form the rest of the elite. One of the more important features of chiefdoms is that they are regionally based; that is, a number of settlements are brought together into one social, economic, and political system. The corridor houses are very good candidates for the chiefly centers of these regional systems. The existence of a number of corridor houses indicates that several chiefdoms coexisted. Considering the size of the settlement at Lerna, perhaps no more than 1.5 **hectares** (a hectare

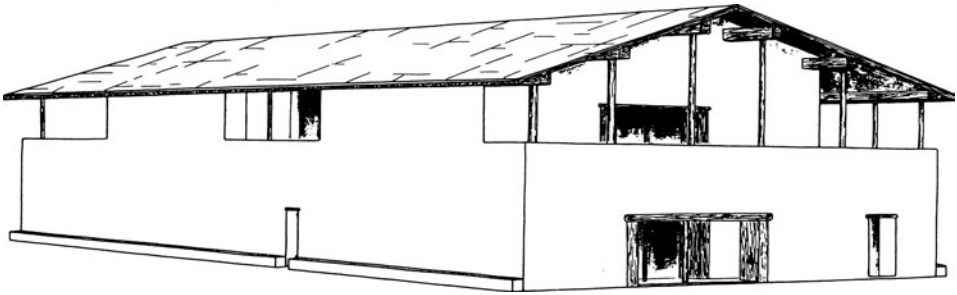

figure 2.8. Reconstruction of the House of the Tiles at Lerna, EH IIB. M. H. Wiencke, *Lerna: A Preclassical Site in the Argolid. Results of the Excavations Conducted by the American School of Classical Studies at Athens* IV: *The Architecture, Stratification, and Pottery of Lerna III*. Princeton: American School of Classical Studies at Athens 2000, I, Fig. 1.7a. © American School of Classical Studies at Athens. Courtesy of the Trustees of the American School of Classical Studies at Athens.

is 10,000 sq. m. or about 2.5 acres), the population would have been no more than 50 to 110 households. As argued above, p. 34, the seventy different seals represented in the sealings from Room XI of the House of the Tiles would have belonged to seventy different individuals, perhaps heads of households. It is difficult to imagine that the sealings in Room XI just happened to preserve one from each household at Lerna itself; rather a number of them must have originated from other settlements. Thus the Lerna evidence supports the regional nature of a chiefdom. The sealings in the House of the Tiles are a record of the "taxation" of individual households; the chief would have redistributed the goods collected to his retainers to ensure their loyalty. Feasting and drinking could have taken place in the sumptuous Room XII.

In central Greece and adjacent islands in the later part of the EH II period, a new assemblage of ceramics appeared, called the Lefkandi I assemblage on the mainland (also Group B at Thebes) and the Kastri Group in the islands (Chs. 3, p. 61; 4, p. 94; 9, p. 213).[40] Many of the forms seem to derive from Anatolian prototypes, though whether from northwest Anatolia, that is, in the Trojan region, or from central western Anatolia, that is, in the Liman Tepe/Izmir region, is still unclear. Scholarly consensus has now been reached that the Kastri Group/Lefkandi I assemblage appeared in the later portion of the EH II and EC II periods in central Greece and the northern Cyclades; whether it continued into EH III or EC III is still not agreed upon. Rutter's hypothesis that EH III was the result of a fusion of EH IIB and Lefkandi I elements in central Greece provides a coherent model for

the ceramic changes,[41] but the precise mechanisms of this fusion and the time period over which it took place have not been clarified. This period of fusion and transition was probably relatively short, perhaps no more than a century. If so, then the Lefkandi I phase cannot be equivalent to the entire EH IIB period, but only the later part of it.

The Early Helladic II period ended at Lerna with the destruction of the House of the Tiles. Caskey's idea that this destruction took place throughout the Peloponnese at all EH II sites and was the result of an invasion is no longer substantiated.[42] There is no pattern of destruction consistent with an invasion or destructive migration, and the items that have been associated with EH III, such as **apsidal** houses (with one rounded end), **tumuli** (burial mounds), terracotta "anchors," and shaft-hole axes, actually appeared at different times from EH II through the MH period as influence from many different areas.[43] Nevertheless, there was a clear and major change between EH II and EH III. This change, dated to ca. 2200 BCE, corresponds to changes in climate seen in several parts of the world, including drought in the Near East and east Africa.[44] Weiss blames these climatic changes for social collapse in Mesopotamia and elsewhere, a suggestion also entertained for the Greek mainland and the Cyclades at this time (Ch. 3, p. 69; 4, p. 98; 5, p. 109).[45]

Early Helladic III

The Early Helladic III period was short (at most two centuries) and is hard to recognize in material from surface surveys.[46] As a result, the period is not well known, and the evidence for EH III activity in the landscape is very poor. Many sites that were generally larger and had access to a greater range of goods in EH II, and that also continued into the MH period, were active in the EH III period. The Berbati Valley survey found no EH III material, though the Mastos site in that valley, excavated in the 1930s, had produced some.[47] In the southern Argolid, EH III was recognized at only two definite and two probable sites.[48] Major changes at Lerna in architecture and ceramics suggest significant cultural, if not also social changes. It was these changes that helped provide archaeological support for arguments concerning the "Coming of the Greeks" (below, pp. 38–41).

At Lerna the debris from the destruction of the House of the Tiles was carefully mounded into a low tumulus ringed by a circle of stones; this tumulus was not built upon for most of the EH III period. The

Lerna tumulus is the earliest known of these structures, which may have an influence on later burial forms, such as the grave circles of late MH. At Lerna the most common type of building was the apsidal house, a form that, although not unknown in the preceding EH II period in the Peloponnese (though not at Lerna), now became much more common – though rectangular structures also continued. The typical apsidal house has an open porch on one narrow end, and a wall often separated the apse at the opposite end from the large main room. The EH III village at Tsoungiza shows that even small settlements could be densely packed with buildings. Not every building was necessarily a separate house, it seems; one well-preserved structure at Tsoungiza, House E, had a large number of **pithoi** (large clay storage jars) set partially in the ground around the edge of the single room. The ceramics and other finds suggest it was a building for the storage and preparation of food – but there would probably not have been enough room for a family to sleep there. This one-room building most likely was part of a larger household establishment.[49]

The EH III architecture and stratigraphic sequence at Kolonna on Aegina are very different from those at Lerna.[50] No break occurred between the EH II (Stadt III) and EH III (Stadt IV) levels; the destruction of Stadt V (EH III) seems not to mark any cultural change, and the succeeding Stadt VI (also EH III) continued the same architecture and material. Massive walls surrounded the site; these were rebuilt five times in the period from EH III through late MH (and they may have existed earlier). Blocks of similar rectangular houses of **megaron** plan (an axial building unit consisting of a main room with an anteroom and/or porch) and sharing party walls most closely resemble houses in the northern Aegean and northwest Anatolia, such as at Troy or Thermi.

Another cultural feature in which we see significant change is in ceramics. Rutter has argued for the continuity of some forms and techniques in ceramics from EH II into EH III at Lerna, but he has also drawn attention to many new features.[51] Pattern-painted surfaces became very common, in contrast to the rarity of this decorative technique in EH II. The wheel came into use for some vessel manufacture, though hand-made pottery still dominated, and a number of new vessel types (several from the Lefkandi I assemblage) replaced shapes of the EH II period. The tankard (Fig. 2.9), a roughly conical, two-handled vessel, seems to have been the common drinking vessel – there is nothing similar in EH II ceramics, where the sauceboat (Fig. 2.3) and small bowl were apparently most often used for pouring and drinking. The

two handles of the tankard would allow a vessel to be easily passed from one consumer to another.

The Coming of the Greeks

The problem of identifying when ethnic and linguistic "Greeks," that is, a particular group of Indo-European speakers, arrived in Greece has been the subject of linguistic and archaeological study since the nineteenth century CE, and continues into the twenty-first.[52] Rare is it that the problem itself has been questioned, for the very formulation of the question in terms of "arrival" necessitates the use of migration or invasion to explain culture change and development.[53] The principal approach to the issue has been to identify a major cultural change that could be attributed to the arrival of the Greeks, and to associate the introduction of certain cultural traits, especially horses and chariots, with Indo-European speakers. Most current Aegean-centered scholarship favors a date for their arrival at the change from Early Helladic II to Early Helladic III; certainly the language is fully in place by the time of the Mycenaean Greek tablets of the Late Bronze Age (Ch. 1, p. 14). Although a full discussion of all the issues is beyond the scope of this review, some of the major points need to be addressed, as they relate to the Aegean Bronze Age, especially the Early Bronze Age.

Early on, a number of apparently "non-Greek" words were recognized throughout the Aegean, especially place names, with *-nth-* and *-ss-/-tt-* suffixes (Kori*nth*os, Kno*ss*os). These were identified as remnants of a pre-Greek language, the surviving elements of which were adopted by the immigrating Greeks. On the basis of similarities in place names, Kretschmer suggested that much of this pre-Greek linguistic substrate came from Anatolia, whose languages at the time were thought to be non-Indo-European. This pre-Greek set of words was thus likewise identified as non-Indo-European.[54] Haley and Blegen are most commonly associated in the English-speaking world with tying the arrival of Indo-European-speaking Greeks to the beginning of the Middle Bronze Age.[55] Their approach was geographical and archaeological: they compared the distribution of the "pre-Hellenic" place names with the distribution of known sites of various prehistoric periods in Greece. Haley supported an Anatolian origin for the place names, and Blegen thought that the distribution of the pre-Greek names fit most clearly with the distribution of the Early Bronze Age cultures. The succeeding period, the Middle Bronze Age, would thus represent

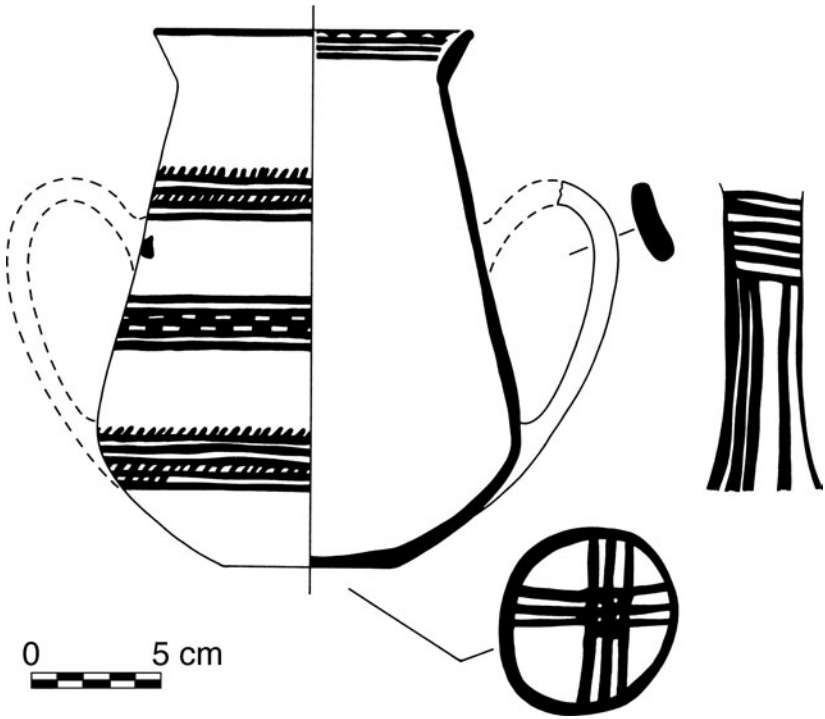

figure 2.9. Tankard from Lerna, EH III. J. B. Rutter, *Lerna: A Preclassical Site in the Argolid*: *Results of the Excavations Conducted by the American School of Classical Studies at Athens* III: *The Pottery of Lerna IV*. Princeton: American School of Classical Studies at Athens 1995, fig. 22 no. 386. © American School of Classical Studies at Athens. Courtesy of the Trustees of the American School of Classical Studies at Athens.

the arrival of the Hellenic people. Blegen also identified a major cultural break marking the beginning of the Middle Bronze Age on the mainland. Nearly all scholars accepted this view until the excavations at Lerna in the 1950s forced a modification.

The Lerna excavations provided firm archaeological confirmation of major cultural disruptions in the Bronze Age; these disruptions occurred not at the end of the Early Helladic period, though, but rather at the end of the EH II. In an important paper, Caskey outlined the clear, three-stage Early Helladic stratigraphy at Lerna and drew attention to the great changes in material culture between EH II (Lerna phase III) and EH III (Lerna phase IV).[56] In contrast, there was no major break in the sequence between EH III (Lerna IV) and the MH period (Lerna V); rather, the changes consisted of the addition of certain

types of pottery, such as matt-painted, the importation of Minoan and Minoan-like pottery, and the appearance of intramural burials. Caskey went on to argue that one could identify destructions at a number of sites in the Peloponnese (but not at all sites, as he admitted), at roughly the same time as the destruction of Lerna III (that is, at the end of Early Helladic II). Although claiming that the question of the "Coming of the Greeks" was beyond the scope of his study, Caskey did propose that the arrival of the ancestors of the Mycenaeans should be placed in the Early Helladic III period, and that the pre-Greek place names studied by Haley and Blegen should be associated with EH II. That these new arrivals were the direct ancestors of Greek speakers was supported by the then relatively new identification of the language of the Mycenaean Linear B tablets as Greek (Chs. 1, pp. 11–12, 14). This basic outline has become the orthodox interpretation.[57] The Kastri/Lefkandi I material and the rejection of Caskey's proposal of major cultural change from EH II to EH III (above, p. 36) have not yet had the impact they should on the matter.

Cosmopoulos and Coleman have both proposed that the arrival of Indo-European speakers in the Aegean took place at the end of the Neolithic or in Early Bronze 1.[58] Cosmopoulos utilizes legends from ancient Greek sources, such as those dealing with the Pelasgoi (the pre-Greek inhabitants of Greece, according to Herodotus, *Histories* I.57) and Carians (denizens of southern Anatolia), as well as general social attributes of Neolithic and Early Bronze Age cultures, to suggest a peaceful infiltration in Early Bronze 1 from Anatolia by Indo-European speakers, and their eventual domination of the Aegean through peaceful means. Coleman, taking into account the problems of the Kastri Group/Lefkandi I pottery and the lack of a single, region-wide set of destructions at the end of EH II, proposes that an initial "pre-Greek substrate language," with the *-nth-* and *-ss-* suffixes but Indo-European, arrived at the beginning of the FN (his "Late Neolithic II") period, ca. 4500 BCE, followed by "proto-Greeks" who arrived at the beginning of the Early Bronze Age (ca. 3100 BCE). Thus, as he admits, his proposal is "strikingly congruent" with Gimbutas's successive migrations of the Indo-European-speaking Kurgan peoples from the steppes north of the Black Sea into the Balkans.[59]

A recent proposal to associate the arrival of Indo-European speakers in the Aegean with the arrival of agriculture at the beginning of the Neolithic, ca. 6500 BCE, has stimulated much new research into the problem of ethnic and linguistic origins.[60] In this scenario Greek would have developed in Greece itself, as had indeed been suggested

earlier.[61] Lately human molecular genetics, especially the field of demic diffusion or "archaeogenetics," has been incorporated. The result is a sophisticated series of hypotheses on the correlation of the spread of farming, populations, and languages in various regions of the world.[62] These hypotheses face several problems, both genetic and archaeological. The latter include the nature (and population size) of the Mesolithic cultures preceding the Neolithic, mechanisms for the spread of agriculture (demic diffusion vs. cultural diffusion), and regional differences.[63] Though many scholars do not agree that the dispersal of Indo-European language(s) was so old, this new area of research promises to provoke much more rigorous study of the problem than vague archaeological traits assigned to a supposed ethnic group.

The Beginning of the Middle Helladic Period

Some sites, such as Tsoungiza, were abandoned toward the end of the EH III period (but reoccupied in late MH in a wholly unrelated phenomenon), whereas others, such as Lerna and Asine, continued without interruption. There were few changes in material culture. What is new and significant is the beginning of increased contact with Crete and islands to the southeast of the mainland. In ceramics the local use of new types of slips and fabrics, such as manganese-based black slips, replaced the iron-based slips of EH II and III.[64] Pottery traced to Aegina by its distinctive "gold mica" minerals became a substantial component in the ceramics of sites in the Argolid and Corinthia and Saronic Gulf areas. At Lerna and other sites in the Argolid, pottery with lustrous decorated surfaces seems to imitate contemporary Minoan ceramics, but this pottery type was apparently absent at Kolonna on Aegina, suggesting competing spheres of ceramic production. During the MH period Kolonna would become arguably the most important site in the region, with its massive fortifications rivaled only by Troy, and the earliest shaft graves yet known in the Aegean (Ch. 10, p. 242).[65] Yet soon power in Greece would shift to the Argolid with the rise of Mycenae (Ch. 10, pp. 246–8).

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Notes

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11 Blegen 1921 (above, n. 1), 5, categories AI and AII.
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19 C. Renfrew, *The Emergence of Civilisation*: *The Cyclades and the Aegean in the Third Millennium B.C.* London: Methuen and Co. 1972, 34.
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21 Goldman 1931 (above, n. 10).
22 A **corridor house** is a large, two-story building consisting of two or more large rooms flanked by narrow corridors on the sides. Some of those corridors held staircases; others were used for storage.
23 Pullen forthcoming (above, n. 12).
24 Forsén 1996 (above, n. 15).
25 Jameson et al. 1994 (above, n. 6), 229 Fig. 4.4.
26 Pullen 1995 (above, n. 6).

27 Jameson et al. 1994 (above, n. 6), 351 Fig. 6.9.
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3: The Early Bronze Age in the Cyclades

Cyprian Broodbank

The Significance of Early Cycladic Prehistory

The Early Bronze Age of the Cycladic islands occupies a remarkable place in Aegean prehistory, out of all proportion to the modest numbers of people who inhabited them.[1] Why have these 30-odd islands enjoyed so much attention? Their average size is a mere 75 sq. km., many are far smaller, and the largest island, Naxos, is hardly a giant in Aegean terms. Even if all the Cyclades are added together, the resultant ca. 2,580 sq. km. is a fraction of Crete or the Peloponnese. Nor, under Early Bronze Age conditions, did these islands offer obviously inviting opportunities for settlement. Despite their popularity today as a tourist paradise, the rugged masses of rock that make up the Cyclades are (save in a few fertile valleys and coastal plains) thinly covered with soil and short of water; they occupy the poorest end of the spectrum of viable environments for farming communities. These features were crucial in shaping the small-scale societies that inhabited these islands in the Early Bronze Age, but can hardly explain the prominence of early Cycladic prehistory in archaeological literature and the popular imagination.

To understand this significance, we need to look elsewhere. One obvious factor is that the Cyclades lie at the heart of the southern Aegean. The northernmost islands brush the coasts of Attica and Euboea, the eastern islands glance back to the southeast Aegean and Anatolia, the dark volcano of Thera (also known as Santorini) stands sentinel over the open sea toward Crete and, to the west, Melos lies midway between Crete and the Peloponnese. As a result, much interregional

communication passes of necessity via the Cyclades. A second cause of their importance is the mineral wealth that results from their complex geology.[2] The volcanic origins of Thera and Melos explain their hard, igneous rocks, used for cutting and grinding tools. The most famous is obsidian, an attractive dark glassy substance that, when knapped, cuts better than flint or even early metal tools, and whose sole Aegean sources for tool production are located on Melos.[3] North of Melos, a string of western islands comprising Siphnos, Seriphos, Kythnos, and probably Keos possess metallic ores (variously silver, lead, and copper) that are demonstrated to have been exploited in prehistory, as does Laurion at the tip of Attica (Ch. 4, pp. 82–3, 86).[4] The Cyclades also boast abundant marbles.

To these two physical factors may be added two more that are the products, respectively, of modern scholarship and taste. In 1972, Colin Renfrew published *The Emergence of Civilisation*, a seminal book that, although now dated in many of its particulars, remains the most influential single contribution to Aegean prehistory in recent times (Ch. 1, p. 2).[5] Embedded within this ambitious book was the first modern synthesis of the artifact types, settlements, and burial habits of the Early Cycladic period, organized around a series of "cultures" named after prominent assemblages, for example, the Grotta–Pelos culture of the later Final Neolithic and EC I and the Keros–Syros culture of EC II. Though Renfrew never actually stated that civilization first emerged in the Cyclades, he used Cycladic evidence to exemplify changes in such realms as farming, social organization, technology, and symbolism that he considered indicative of emerging complexity across the Aegean as a whole.

The fourth factor that has boosted the profile of the Early Bronze Age Cyclades is also the most serendipitous.[6] Among the objects made by the islanders are marble figurines of schematic or more recognizably human form, most of them female, and usually found in graves. Nineteenth century CE antiquarians dismissed them as crude idols or assumed them to be archaic fertility goddesses. But Modernists such as Picasso, Brancusi, and Moore, who strove to break away from the strictures of naturalism, admired these figurines, along with other so-called "primitive" art, for their supposed qualities of purity and abstraction. In fact, as is revealed by surviving traces, computer enhancement, and ultraviolet reflectance techniques, these figurines were once covered with painted facial features, tattoos, and jewelry (Fig. 3.1).[7] What the Modernists admired was a far cry from these objects' original appearance. Nevertheless, the establishment of Modernism as a new

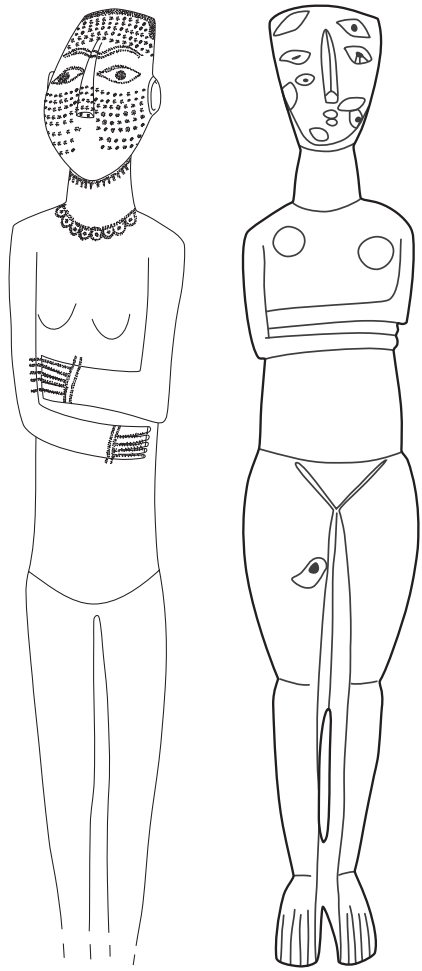

figure 3.1. Cycladic marble folded arm figurines as they would have appeared in the EBA, with the painted decoration revealed by (left) surviving traces and (right) ultraviolet reflectography and computer enhancement. Redrawn after (left) P. Getz-Preziosi, *Sculptors of the Cyclades: Individual and Tradition in the Third Millennium BC*. Ann Arbor: University of Michigan Press 1987, fig. 29 and (right) E. Hendrix, "Painted Ladies of the Early Bronze Age." *Metropolitan Museum of Art Bulletin* 55 (1998) fig. 16. Not at the same scale. Drawings by Rania Exarchou. Courtesy of the author.

canon has catapulted Cycladic figurines into the limelight as works of genius, ranked among the prized possessions of museums and private collections.[8] They are examined for canons of proportion or divided into the oeuvres of putative "masters",[9] and are assuredly the only aspect

of Cycladic culture familiar to the wider public. Resultant astronomical increases in their market value have led to the devastation of countless Cycladic cemeteries by robbers working at the behest of dealers and, ultimately, their clients. Most figurines (including an unknown number of fakes) thus possess no archaeological context, which fatally compromises our understanding of their significance. This catastrophe lends poignancy to the act of gazing at a trim, yet mute Cycladic figurine in its elegantly lit museum case.

Taken together, the above factors go some way toward explaining why the Early Cycladic period matters. But are they enough to provide convincing explanations and a stimulating and appropriate agenda for investigation? In many ways, the answer must be "no." For one thing, geographic and mineral resources are fairly constant features in the Cyclades. Yet ways of life in the islands changed profoundly through time, as is apparent if we contrast the picture presented here with that in Ch. 8. Explanations must therefore address the variable ways in which groups of people with specific constraints, opportunities, perceptions, and priorities inhabited these islands at different times. The flaw in Renfrew's vision is that his approach to the "emergence of civilization" does not produce the goods in the Cyclades themselves. The first palatial **polities** (politically organized societies) emerged not in the Cyclades, but on Crete, whose culture then transformed the smaller Cycladic centers that had formed by the earlier second millennium BCE (Chs. 5, 8).

For the Cycladic Early Bronze Age we therefore need to establish new frameworks to understand what was going on. One promising way is to explore Cycladic archaeology as island archaeology. This may seem an obvious point, but in fact few analyses have treated the Cyclades in this way. An island archaeological perspective asks, for example, how people first settled these scraps of land, how the difficulties and opportunities of island life created island societies, how islanders ordered the "islandscape" they inhabited, how seafaring technology enabled them to maintain and exploit contacts with each other and with other communities beyond the Cyclades, and how Aegean developments were filtered by insular conditions. This approach offers a good explanatory framework for the Cyclades. Further, without uprooting these islands from the culture of the Early Bronze Age Aegean, it also allows Cycladic archaeology to contribute to comparative global analyses of island societies around the world, opening the kinds of two-way bridges between Aegean prehistory and other regions that are so vital to the future of the field.

There is one last reason that the time is ripe for a new look at the Early Cycladic period. The past two decades have yielded a spate of new information, derived from excavations, landscape surveys, restudy of old finds, and scientific analysis of pottery, stone, and metals.[10] Although many gaps still exist in our knowledge, the Early Bronze Age Cyclades can claim to be among the most intensely explored, data-rich islands in world prehistory.

Early Seafarers and Settlers

The earliest human presence in the Cyclades pre-dates the Early Bronze Age by millennia. Until recently, the only confirmed sign of hunter-gatherer activity before the Neolithic (7000–3100 BCE) was tiny quantities of Melian obsidian at the Franchthi cave in the north-east Peloponnese, in late Upper Palaeolithic levels dating to the end of the last Ice Age, followed by larger quantities in Mesolithic levels (ninth to eighth millennium BCE).[11] Analysis of sea levels in the last Ice Age proved that Melos had never been joined to the mainland.[12] Taken together, these observations showed that people had obtained Melian obsidian from a very early date, and that they had traveled by sea to do so. Now other clues are emerging, namely alleged Middle Palaeolithic tools on Melos and radiocarbon dates lying in the Mesolithic at Maroulas on Kythnos.[13] The Cycladic islands were probably visited seasonally for fish and obsidian by mobile hunter–gatherer groups based elsewhere.[14]

This situation may have lasted well into the Neolithic. The advent of farming triggered a gradual impetus to island settlement throughout the Aegean, because domesticated animals and plants boosted islands' viability for year-round habitation. Yet there is to date no sign of established communities resident in the Cyclades until the Late and Final Neolithic (5200–3100 BCE). Maybe earlier Neolithic antecedents will be discovered, but the first people who at the moment merit the title of "Cycladic islanders" are those of the Late Neolithic Saliagos culture, which dates roughly to the fifth millennium BCE.[15] Their way of life was a transposed version of that in the farming villages of the mainland, with its symbolic vocabulary of elaborate decorated pottery and figurines, but one insular adaptation was a greater fishing component, witnessed by frequent fish bones, including large tunny.

The sequence of stratified layers at the Zas cave has clarified cultural changes from the Saliagos culture through the Final Neolithic

into EC I.[16] The early phase of the Final Neolithic is termed the Kephala culture, after an early fourth millennium BCE site on Keos.[17] Its late phase (from ca. 3500 BCE) sees the appearance of the Grotta–Pelos culture in the south, which continues to the end of EC I (Fig. 1.1). The Final Neolithic anticipates key features of Early Bronze Age society and culture. Defensive locations for settlement are chosen for the first time. The later Final Neolithic (i.e., early Grotta–Pelos) also witnesses a shift in settlement pattern from a few stable villages to a widespread scatter of far smaller communities, which remains the basic settlement type in the Early Bronze Age. Cemeteries, a major component of the EC record, are first attested at Kephala, and figurines and marble vessels presage EC forms. In addition, Final Neolithic sites contain metal tools, weapons, and jewelry, some imported (such as gold work of the Balkan type), but much local, as proven by metallurgical debris.[18] Most of these characteristics are attested at the newly discovered site of Strophylas on Andros, a big settlement on a cliff-girt bluff, with a precociously early bastion-studded fortification wall providing protection to landward, and metal finds.[19] In one other respect Strophylas prefigures developments hitherto attested only in the Early Bronze Age. The exposed bedrock and fortification wall preserve traces of engraved images of an island universe: people, domestic animals, hunting, fish, birds, cosmological symbols – and, most striking, the earliest depictions of seagoing boats.

The boats of Strophylas are paddled canoes, with no trace of a sail. They fall into two basic types, small canoes and larger longboats with elaborated ends and indications of many paddles. Both types anticipate by a millennium EC II depictions, the best known of which are the famous longboats incised on so-called "frying pans" in the Chalandriani cemetery on Syros (Pl. 3.1).[20] The smaller canoes are probably simple dugouts, and indicate the kind of vessels that had taken people around the islands for millennia. Ethnographic reports, calculations based on the remains of similar vessels elsewhere in the world, and experimental replicas argue that such canoes could cover some 20 km a day with modest cargo. They could have shuttled a few people, sacks of grain, animals, pots, or lumps of mineral from one island to the next between dawn and nightfall, but a journey across the Cyclades might have taken as much as a week or two. Longboats were certainly faster but not necessarily that much more capacious. They probably served as war canoes and ceremonial vessels, and needed crews of about 25 people. They may have been built up with planking, and depending on their carpentry, their first appearance might correlate with the introduction of metal tools. Whatever the answer to this question, the boat images of

the Cyclades contribute to more than the history of nautical technology. Boats were part of the islanders' symbolic vocabulary, their means of maritime mobility and of interaction with other communities, and, as will be suggested, a measure of social power.

Living in the Early Bronze Age Cyclades

By the start of the Early Bronze Age, the major Cyclades had probably all been settled. Colonization of smaller islands was still ongoing, however, to judge by the EC II pottery reported on islands such as minute Christiana.[21] This reflects an infilling of pockets in the islandscape as populations grew during the Early Bronze Age and networks of communities became denser. There are still gaps in our knowledge of specific islands, and ongoing difficulties in defining EC I material in the north, equivalent to the Grotta–Pelos culture in the south. We can, however, reconstruct the principal features of Early Bronze Age island communities with some confidence.

The farming practices that sustained Early Bronze Age islanders are only partly detectable through analysis of animal bones and crop identification techniques. The suite of domestic animals appears identical to the Neolithic, predominantly sheep and goats, plus a few pigs and cattle (donkeys are attested on the Greek mainland but not as yet in the Cyclades). However, there may have been crucial shifts in the use of animals: in particular, increased herding of stock and exploitation of sheep and goat for dairy products and wool as well as meat, albeit within a mixed farming regime.[22] There is no evidence for specialized pastoral communities, and the use of cattle for plow traction, an important innovation in contemporary mainland regions (Ch. 2, pp. 27–8), would have had less impact in broken island terrain. Fish and other wild animals provided a dietary supplement. The evidence for crops is patchy. The earlier staples (drought-resistant barley, wheat, and pulses) continued, most likely intensively hoe-cultivated in gardens or small fields. More controversial is the question of whether the olive (a major storable food and a potential status good if converted to oil) and vine (the source of the Mediterranean's major social intoxicant) were cultivated.[23] Vine-leaf impressions on the bases of Early Bronze Age pots suggest a familiarity that matches the proliferation of drinking vessels at this time, and a recent analysis of charcoal at EC Akrotiri on Thera reveals a high 43.2% of olive wood, from which cultivation of wild or domestic olives might be inferred.[24] If the case for increased

diversification in the form of small-scale herding, dairy products, and the introduction of olive and vine can be sustained, this flexible package might explain the success with which Early Bronze Age groups expanded from the clement bridgeheads occupied by the Neolithic villages, across the patchy mosaic of scrubby upland and slivers of dry arable that make up most of the Cycladic landscape.

With the exception of a few markedly larger EC II settlements (below, pp. 55–7), the overwhelming impression in EC I-II is of numerous small settlements dispersed over the landscape. The size of a typical settlement was a mere fraction of a **hectare** (10,000 sq. m. or about 2.5 acres), as shown by excavated examples at Markiani on Amorgos, Panermos (Korphari ton Amygdalion), and elsewhere on Naxos, and other sites found by surveys on Melos and other islands.[25] The inhabitants of such farmsteads and hamlets should number from one to a handful offamilies. This pattern is replicated in many marginal Aegean environments during the Early Bronze Age. It is a good risk-spreading response to the unpredictable dangers of localized droughts, harvest failure, or other disasters, especially if coupled with social networks that provided for help in adversity.[26] This social necessity could explain the proliferation of small prestige objects exchanged in the Cyclades at this time (below, pp. 60–67).

Just how few people there were in the islands becomes apparent if we multiply the likely population of a typical settlement by the approximate number of such settlements on an island (allowing for the probability that not all were simultaneously occupied). Naturally, this exercise is fraught with uncertainties, but survey data from Melos and less strictly quantifiable data from other islands agree in suggesting densities of between 0.5 and 3.0 people per sq. km., with increases in settlement numbers between EC I and II, created by fissioning of communities.[27] The implications are startling. For average-sized islands such as Siphnos and Seriphos (ca. 74–75 sq. km.), it follows that the expected population is ca. 37–225 people. The largest islands should have attained populations of over a thousand people, but musters for the small islands are unlikely to have exceeded double digits, and pan-Cycladic totals probably remained below 10,000 people. What do such numbers tell us? First, in the light of anthropological indications that only populations of at least ca. 300–500 people can remain self-sufficient in marriage partners and reproduction over an extended duration, it transpires that most islands (and of course settlements) were demographically dependent on inter-island contacts for long-term survival. Second, the Cycladic figures are low in comparison with the biggest

centers of burgeoning population, wealth, and power elsewhere in the Aegean. For example, the ca. 1,290–1,940 people who may have lived at Knossos during EM II[28] are equivalent to several medium-sized islands put together.

Against this backdrop, the handful of larger, more populous, and more complex settlements that emerge in EC II stand out as completely different. The identification of such places has been slow, and remains incomplete. The first to be explored was Chalandriani–Kastri (Fig. 3.2), where Tsountas excavated a late EC II fortified settlement at Kastri and a large, wealthy cemetery at Chalandriani; even so, the main settlement has only recently been documented.[29] Another lies under later Bronze Age levels at Ayia Irini on Keos (Periods II–III),[30] and a third may exist at Grotta on Naxos, close to the contemporary Aplomata cemetery, which boasts the remarkable density of 42 marble figurines and 60 marble vessels from the 27 excavated graves of what was surely a larger cemetery.[31] At the tip of the small, now-deserted island of Keros, EC II settlement remains exist at Kavos and on Daskaleio islet. Nearby was a phenomenally rich, tragically looted "special deposit" that contained hundreds of smashed fragments of marble figurines, thousands of marble vessel fragments, and tens of thousands of pottery sherds, as well as other prestige goods and pieces of human bone. These probably represent the remains of a uniquely wealthy cemetery; a complementary or alternative view is that Keros fulfilled Delos' later role as a pan-Cycladic sanctuary.[32] A fifth example dating to early EC II is now being revealed at Skarkos on Ios, where superb preservation conditions (due to earthquake destruction?) promise to revolutionize our understanding of architecture and households.[33] This site should provide fascinating comparisons with the later EM II fire-destroyed settlement of Myrtos-Phournou Koriphi on Crete (Ch. 4, p. 97). The walls at Skarkos stand 2–4 m tall, demonstrating the existence of two-story houses, delineating house blocks (each complete with pottery, tools, and other artifacts), and defining narrow streets and small communal squares.

These bigger settlements share significant overall features. Where it can be assessed, their size is on the order of 1 hectare; Kastri is smaller, but probably not the primary settlement focus. The density of architecture at Skarkos and Ayia Irini, the most thoroughly excavated examples, argues for closely packed households and populations of at least 200–300 people, in other words, village-sized communities.[34] If similar figures pertain to Daskaleio–Kavos, this community exceeded the small population of 8–45 people anticipated for the entire island of Keros (15 sq. km.) on the basis of normal EC densities, a fact that

underscores the striking trajectory of the site. Although the social structure of such villages must have differed from that of farmsteads and hamlets, it may nonetheless have remained "egalitarian" insofar as it was free of institutionalized social hierarchies, whatever short-term inequalities of wealth, experience, and power must have arisen. In this respect, it is interesting to note that none have produced equivalents to the large "corridor houses" of the Greek mainland (Ch. 2, pp. 32–5) or the contemporary **megara** (axial building units consisting of main room with anteroom and/or porch) of Troy level II. Seals and **sealings** (lumps of clay impressed by a seal; Fig. 1.3) comparable to those found elsewhere in the EB II Aegean are now attested in the Cyclades, notably sealings at Skarkos and the Zas cave,[35] but nothing suggests that these reflect the emergence of a centralized administration. Similar observations can be made concerning craft production, signs of which are present in a variety of media, notably metals, at most of these sites. The multimedia workshop at Kastri contained crucibles, traces of copper and lead/silver working, moulds for casting tools and weapons, a copper saw and other woodworking gear, small grinders, and obsidian blades.[36] But there is no indication that craft production was institutionally controlled, as is commonly assumed for the later palatial period.

The reasons that these large EC II communities emerged at specific locations, unlike the more or less undifferentiated EC I landscape, are explored below (pp. 63–7) in the context of Cycladic trading networks. The point to emphasize now is that although they displayed relatively large concentrations of people, promoted specialist crafts, and (on the evidence of their cemeteries, when known) cornered impressive amounts of prestige goods, there is nothing to suggest that hereditary leaders controlled them. Nor do they seem to have ruled territories containing smaller settlements from which they drew tribute, as has been argued for "chiefdoms" on the EB II Greek mainland and for centers in the richer arable areas of Crete (Chs. 2, pp. 34–5; 5, pp. 114–6). In the islands of the Cyclades, manifestations of social power were different, and tied to the maritime, insular landscapes in which they developed.[37]

The Cycladic Way of Death

Despite the heavy toll that Cycladic cemeteries have suffered at the hands of robbers, they supplement the picture derived from settlement analysis in important respects.[38] Most Grotta–Pelos and EC II

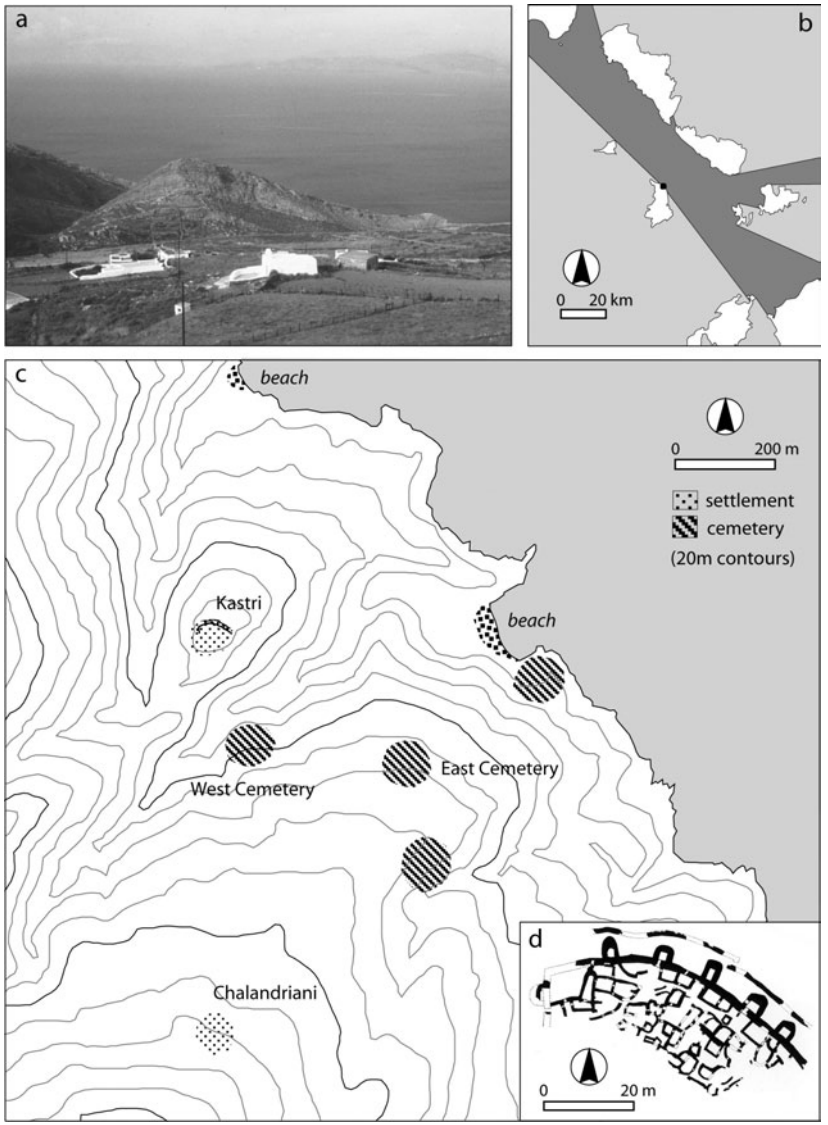

figure 3.2. Chalandriani–Kastri: (a) topographic view from the southeast with the summit of Kastri in the middle distance; (b) map showing how the site commands the main strait through the northeastern Cyclades; (c) plan of the overall site complex; (d) detail of the fortified settlement of Kastri. Drawing by Andrew Bevan. Courtesy of the author.

cemeteries share some common features, although they also display considerable variation in details. In general, the Cycladic cemeteries are located close to their associated settlements, and take the form of one or more clusters of small, shallow, rectilinear cist graves constructed from large slabs or smaller stones, or cut into soft bedrock. Regional variants include circular forms with **corbelled** roofs (constructed of overlapping courses of blocks), as at Chalandriani, and antechambers, as in rock-cut examples at Agrilia on Epano Kouphonisi.[39] Each grave typically contained a single person, buried in a flexed position, but remains of further burials are regularly found, often as accumulations of skulls, and mainly associated with two- or even three-storied tombs. Grave goods sometimes accompany the dead, but the presence, nature, and number of these is variable. Paving or protruding slabs might mark the position of a particular grave, and at the carefully excavated Naxian cemetery of Ayioi Anargyroi (Fig. 3.3), a low platform along the edge of the cemetery was used for the performance of funerary rituals, to judge by the associated fragments of decorated portable hearths.[40]

What can we learn from these cemeteries? For one thing, they confirm and refine the impression of very small living communities, with a few larger exceptions. More than 80 cemeteries are archaeologically known, and of these the overwhelming majority comprise fewer than 50 graves. Even allowing for losses to time and looting, and cases of multiple burial, these figures reflect small burying groups, no more than one or two families over a century or two: such communities were not only small, but also short-lived. This conclusion is strengthened by indications that most members of a community were indeed formally buried. Skeletal analysis is still woefully rare, but already confirms the presence of men and women, whereas children may be inferred from small graves, and variation in grave goods may argue for inclusion of people of differing status. Most of the larger cemeteries comprise only 50–100 graves and some, judging by the date-ranges of their artifacts, reflect longer usage rather than a substantially larger burying group – a phenomenon particularly apparent on the large island of Naxos, for instance at the newly excavated Tsikniades cemetery.[41] Against this background, a single exception stands out, namely the vast cemetery of 600–1,000 EC II graves, divided into four subclusters, at Chalandriani.

Cemeteries also provide insights into Cycladic social strategies. In contrast to the built communal tombs of Early Bronze Age Crete

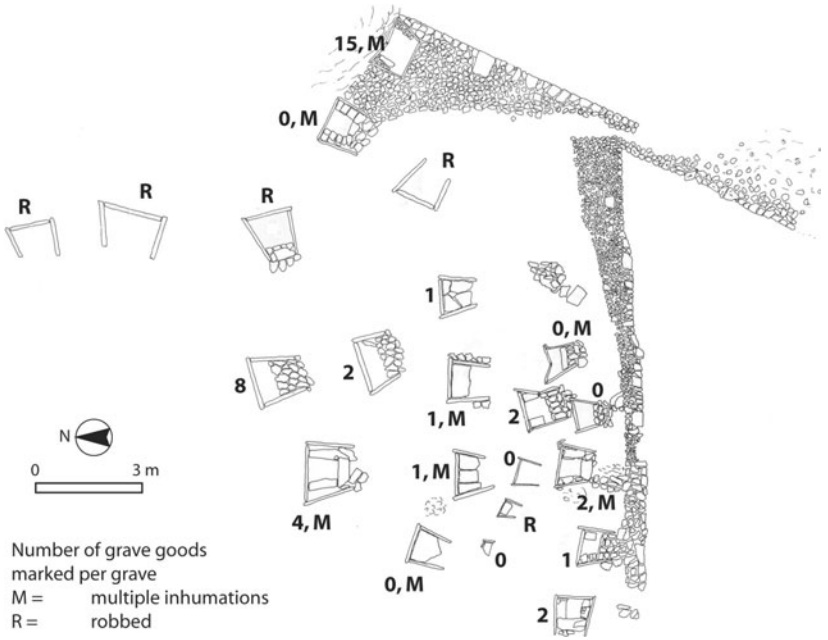

figure 3.3. The Ayioi Anargyroi cemetery on Naxos, showing graves and part of the associated platform. The numbers of objects found in each grave and the incidence of multiple **inhumation** (burial) are shown. Note that several graves had been robbed before excavation. After C. G. Doumas, *Early Bronze Age Burial Habits in the Cyclades.* SIMA 48. Göteborg: Paul Åströms Förlag 1977, fig. 17 with additions derived from pp. 100–114. Drawing by Andrew Bevan. Courtesy of the author.

(Ch. 4, pp. 84–5), the Cycladic cemeteries are not highly visible long-term monuments, though their very existence may imply a concern with affirming ancestral land claims in the context of fluid small-scale settlement. What they do emphasize more than the Cretan tombs, however, is a focus on the individual member within the community, most obviously by single burial, but also in the number and nature of grave goods. These are likely to relate to the personal achievements of the deceased and their kin. Given the small scale of the settlements involved, it is more appropriate to explain accumulations of goods in artifact-rich graves as statements about the temporary achievements of particular individuals such as family heads, community leaders, or other local heroes, and their relatives, rather than as signs of ruling chiefs.[42]

Material Worlds

What kinds of objects did a rich Cycladic burial contain? Two EC II examples can illustrate their nature and diversity. Grave 10 of the Spedos cemetery on southern Naxos contained two marble figurines, four marble vessels, four pots with elaborate painted designs, and three further pots, two with incised decoration.[43] Grave 14 at Dokathismata on Amorgos displayed similar features, including two marble figurines, two marble vessels, and two pots, but also a metallic component in the form of a fragmentary silver bowl, a copper/bronze spearhead, and a copper/bronze dagger with silver rivets.[44] Grotta–Pelos culture rich burials are less common, and tend to contain a high proportion of marble items, with little if any metal.

Such types of finely crafted prestige objects, as well as jewelry, skillfully knapped long obsidian blades, and other virtuoso carved stonework, make up the mainly cemetery-derived displays of Cycladic artifacts in museums, and claim the lion's share of accompanying scholarship. Prestige objects were used by the living too, as is attested by occasional finds in settlements, and the worn or damaged appearance of some eventually buried examples. Such objects were not made exclusively for funerary use, but first acted as status markers and exchange goods to seal relationships with other communities. However, most of the objects in Cycladic settlements were unlike those seen in museums today. They comprised plainer pots in coarse clays, stone querns, short obsidian blades, and other tools, variously used for the storage, processing, and consumption of food and drink and for other domestic tasks.[45]

With this caution in mind, let us examine some of the objects used by the Cycladic islanders. Pottery is the commonest find. Cycladic pottery was handmade throughout the Early Bronze Age, but shows technological advances in EC II, such as use of finer clays and higher firing temperatures. The range of shapes and decoration also expands. The Grotta–Pelos repertoire is narrow, its best-known shapes being the heavily burnished rolled-rim bowl with tubular lugs, and collared jars and pyxides (small boxes) with incised herringbone decoration.[46] The transitional EC I–II "Kampos group" displays a wider range of forms, including the first "frying pans," shallow, probably ritual vessels that owe their name to a coincidental similarity to the modern kitchen item, and that bear incised decoration including sun/star, vulva, ship, fish, and other motifs (Pl. 3.1 shows an EC II example).[47] In EC II this

range expands further,[48] and stylistic subgroups reflect the increasing definition of local networks in parts of the Cyclades as population grew. Forms include the sauceboat (for drinking or pouring; Fig. 2.3 shows Greek mainland examples), jug, and large storage vessels, sometimes decorated with rope bands. Incised decoration remains common, but impressed designs and light-surfaced pots with dark painted designs (mainly sauceboats, jugs, and pyxides) also appear. Three characteristics of the EC II repertoire can be stressed. First, drinking and pouring vessels become prominent, perhaps indicating social consumption of wine. Second, hints of a lost range of metal vessels are glimpsed in skeuomorphic ceramic details (imitating other materials), for example, the addition of nonfunctional clay rivets in imitation of metal ones, and a taste for lustrous surfaces. Third, non-Cycladic parallels, and in some cases prototypes, can be identified for several important locally manufactured shapes – sauceboats, for example, are common on the Greek mainland and were also made in western Crete (Chs. 2, pp. 26, 30; 4, p. 89; Fig. 2.3). All these characteristics are manifest in one late EC II phenomenon: the emulation of monochrome burnished drinking and pouring vessels of eastern Aegean and western Anatolian derivation, known in the Cyclades as the Kastri group (Chs. 2, pp. 35–6; 4, p. 94; 9, p. 213).[49]

Metal objects are oddly rarer in EC I than in the Final Neolithic, probably due to biases in ancient deposition and modern recovery,[50] but numbers boom in EC II.[51] Although imported pieces are known in the Neolithic, gold is all but unknown in the Early Bronze Age Cyclades, where the precious metal is silver, extracted on Siphnos and at Laurion in Attica.[52] Apart from lead, the other major metal was copper, locally available in the western Cyclades. Scientific analyses demonstrate that the copper objects contain varying amounts of arsenic, either naturally occurring or due to deliberate alloying. Tin–copper alloys, i.e., true bronzes, only appear in late EC II, at the same juncture as the Kastri group, and are again associated with western Anatolia, an Aegean access point to tin that probably came ultimately from distant regions such as Afghanistan.[53] Some alloying may have been driven less by the quest for harder products than by an interest in surface appearances, for example, the silvery sheen of arsenic-rich copper and the yellowy-gold hue of tin–bronze. The issues of metal extraction and circulation are dealt with in the next section, but what of the types of objects themselves? Tools (axes, saws, and awls) are best known from a few hoards, because they were seldom considered appropriate as grave goods.[54] Weapons, in the form

of daggers and spearheads, are well attested. Silver jewelry includes pins with elaborate finials, bracelets, necklaces, and diadems, emphasizing the social display component of many early metal objects. To a greater degree than pottery, EC II metalwork shows stylistic and technological parallels with contemporary finds elsewhere in the Aegean, although it is notably simpler than the objects from Troy level II, and metal vessels are poorly represented.

Viewed dispassionately, rather than as high art, marble objects are equally informative. They can be divided into figurines (above, pp. 48–50), principally the well-known EC II female "folded-arm" type (Fig. 3.1), and vessels.[55] Some external influence on the folded-arm figurine form is not implausible, but manufacture in marble is largely dominated by Cycladic initiatives, perhaps unsurprisingly, given the local availability of the raw material. Many finds derive from the southeastern Cyclades, and given the abundance of high-quality marbles, it is likely that most were produced there too. The Grotta–Pelos forms are limited in number, the most notable being the violin figurine (a schematized rendering of the human body) and a pedestaled jar known as a *kandila*, due to examples reused later as lamps in Cycladic churches. In both figurines and vessels, EC II witnesses an explosion in numbers, diversity, intricacy of design, and maximum size. Dramatic manifestations include the exceptional numbers of objects and shapes in the richest cemeteries and the pinnacles of craft elaboration represented by seated harpists, standing figures, and shallow dishes decorated with birds and by the size of the biggest figurines (most, maybe all, of these features are probably associated with Daskaleio–Kavos). Although experiment has shown that a novice could make a typical Cycladic figurine with simple tools in a few days,[56] the most complex marble pieces attest to higher degrees of expertise. It is tempting to explain their emergence out of the simpler forms, together with the latter's up-sizing, as a result of competitive emulation among the manufacturers and users of such objects. Alternative explanations, for example, that larger figurines were cult statues and smaller ones votaries, are less plausible in light of the formal similarities between the two and the absence of secure evidence for use of these figurines in cult, as opposed to domestic and funerary, contexts.

This compressed survey has provided an overview. As ever with categories, however, by looking at Cycladic objects in different ways, other groupings can be discerned. One, for example, comprises intriguing hints of grooming and tattooing kits in Cycladic graves: marble vessels with traces of cinnabar colorant, miniature bottles and bone tubes

containing blue azurite, pestles in a range of materials including obsidian cores exhausted after blade production, "pins" that may in fact be tattooing needles, and obsidian blades for shaving or scarification. Are these signs of the elaboration of individual personae in death? Another grouping of the data identifies symbols linked to the sea, navigation, and swift movement, including canoes, celestial bodies, fish, birds, and running spirals reminiscent of waves. These are visible in many media but brought together on the frying pans, where a further link is made to female sexuality, and thence to the realm of the figurines. Such elements, together with drinking vessels, metal daggers, and jewelry, form a network of prestige objects and symbols identical to the types used by Renfrew as the core of his EC II "Keros–Syros" culture, and suggestive of expressions of social status in the Cyclades at this time.

The Island Sea-Traders

Seafaring and interaction have emerged as key features of the Early Bronze Age Cyclades, and trade was one of the fundamental logics of social life in the islands. Networks of inter-community and inter-island relations were essential to survival throughout the Early Bronze Age: they comprised short-range shuttling of foodstuffs, transfer of animals, marriage alliances, gift-giving, access to nonlocal raw materials, and assuredly much else besides. The resultant exchanges and circulation of objects and materials within local worlds made up a substantial part of what we term Cycladic "trade." It may have comprised more or less all such activity during the Grotta–Pelos culture, when there are few signs of long-range links to other parts of the Aegean.

Toward the end of EC I, and more spectacularly in EC II, the situation alters. The first major evidence for long-range links dates to the EC I/II transitional Kampos group, when parallels start to appear with distant areas of the Aegean, the most striking being those between burials at Agrilia on Epano Kouphonisi and the cemetery of Ayia Photia and other locations in northern Crete (Chs. 4, pp. 86–7; 9, pp. 210–12; Fig. 9.1; Pl. 9.2). This may well reflect the establishment of enclaves of Cycladic people in the latter region.[57] In EC II proper, despite Cycladic influence on burial customs in coastal Attica and Euboea, the case for such enclaves evaporates. Cycladic goods are, however, widely present throughout the Aegean, especially small prestige objects such as figurines, sauceboats, and bone tubes, but also, as recent work has revealed, liquid storage vessels. Long-range imports to the islands are seen too,

for instance fine sauceboats (the urfirnis [semilustrous black slipped] and yellow mottled types of principally Greek mainland derivation; Ch. 2, p. 26; Fig. 2.3). Cycladic forms are imitated abroad, as exemplified by the Koumasa type figurines of Crete, indicating the social cachet of island culture (Chs. 4, pp. 90, 93; 9, pp. 211–12). Renfrew's name for this intensification of multidirectional trading links and complex interplay of styles was the "international spirit," a nice expression, though of course nations did not yet exist.[58]

Some of this activity can be explained in relation to the movement of metals. Fieldwork on Siphnos, Seriphos, and Kythnos has found and dated Early Bronze Age sites for extracting or smelting metals, the latter activity in remote, windy coastal locations such as the impressive Kythnian slag-heap at Skouries.[59] In tandem, analyses of metal composition, especially lead isotope analysis (a means of identifying a specific "fingerprint" for an ore source and matching it with analyzed artifacts; Ch. 1, p. 10) demonstrates that Cycladic metals and those of Laurion did indeed circulate widely.[60] It is even suggested that most of the copper used on Early Bronze Age Crete derived from Kythnos. Separate metallurgical stages from mining to artifact production are often found at different points around the Aegean, so apparently ores and smelted ingots circulated as well as finished artifacts. This fact and the coastal distribution of so much of the evidence suggest that seafaring and metallurgy were closely associated activities.

This interregional movement implies long, risky voyages, especially when crossing the sea-deserts between the Cyclades and Crete. Here the prevailing northern winds might prevent a direct return journey and dictate a cyclic route via the eastern or western fringes of the Aegean.[61] In paddled canoes, the implied distances of several hundred kilometers meant long absences from home. So who were these intrepid sea-traders? They were assuredly not exclusively Cycladic, because similar developments can be seen in other insular or quasi-insular parts of the Aegean, notably the Saronic and Euboean gulfs (Kolonna and Manika), northern Crete (Mochlos and Poros), and the northern Aegean (Palamari on Skyros and Poliochni on Lemnos). But some of the most dynamic maritime trading communities are to be sought in the Cyclades, at the center of the southern Aegean interaction zone. In fact, a strong case can be made that the larger EC II communities identified above (pp. 55–6) were not simply prominent participants in such activities, but owed their existence, and the wealth of certain of their members, primarily to their preferential position in networks of maritime trade.

Attention has already been drawn to the rich graves at Chalandriani and Aplomata, and the huge accumulation at Kavos, as well as to the residues of craft working, especially in metals, at such sites (above, pp. 55–9). Further insight comes from study of the imported pottery at large and small sites, as identified by nonlocal rock inclusions in the clay (Cycladic marble cannot be so accurately provenanced). At most small EC II settlements, such as Panermos, Markiani, Phylakopi, and Mt. Kynthos on Delos, imports are a small fraction of the whole (ca. 5–10% on average). [62] In contrast, at Ayia Irini 25–30% of the pottery is imported, and analysis of pottery from the Kavos settlement and special deposit shows that a minimum of half is undoubtedly imported, with the true figure almost certainly higher, and possibly close to total importation.[63] The geographical range of the Daskaleio–Kavos imports is impressive; large numbers of often bulky vessels come from the adjacent zone of the south-east Cyclades, and fewer, generally finer vessels from more distant regions, such as decorated jars from Syros, painted cups from Melos, and sauceboats of diverse origins including the Greek mainland. The transition point between these two importation patterns falls at about the distance of a day's travel by longboat.

Other factors can also be brought to bear, not least the seafaring imagery present at some of these sites (most notably the Chalandriani frying pans depicting longboats, Pl. 3.1) and their larger populations. More people would have been needed for crewing longboats as well as sustaining long-range trade, given the need to mesh long absences with the labor demands of the agricultural calendar. Maybe initial success on the part of prominent people at such sites attracted others who sought to share their prestige, creating feedback that drove more ambitious voyages, and provided manpower for mobilizing longboat raids on smaller communities or emergent competitors (the nastier side of the coin is clear from the number of fortifications built by late EC II). In this sense, an interaction network characterized by fairly even communication between settlements was gradually replaced by one in which an increasing amount of maritime movement was routed through a few centers, generating a division between parochial communities and select nodal sites with radically wider horizons. The explosion of maritime symbols and rich graves reflects intensifying ideologies, cycles of competitive display, and conspicuous consumption at the centers, with traders, navigators, or the others vying for ephemeral power – the complement at home to glory won abroad through prowess at seafaring and the accumulation of exotic goods and knowledge.[64] The elite of the EC II Cyclades may have resembled the Big Men and Great Men

(or Women) known from ethnographies of recent island Melanesian trading societies,[65] rather than the territorially based leaders emerging on parts of the Early Bronze Age Greek mainland and Crete (Chs. 2, pp. 30, 34–5; 4, pp. 99–100; 5, pp. 107–8, 114–7).

This leaves one question unanswered: why are these communities where they are? In fact, their locations support the hypothesis that their prominence is due to maritime trade. Some, such as Grotta–Aplomata and Skarkos, control extensive arable, but Ayia Irini's hinterland is confined, and Chalandriani–Kastri and Daskaleio–Kavos occupy poor areas for farming. Moreover, none of these communities lies close to the minerals of the western Cyclades; any advantage in metal or obsidian production that they exercised must have been based instead on controlling the maritime means of access and circulation. The presence of good harbors is unlikely to have been critical, as canoes could be drawn up on any foreshore, and indeed although Ayia Irini and Skarkos are located on excellent bays, the longboats of Chalandriani–Kastri operated from a strip of shingle (Fig. 3.2). Nor, given the changeable winds in the Cyclades and their impact on surface currents, can central places be forecast by analyzing prevalent winds and currents, even if such factors influenced long-range voyaging over open seas.

Conversely, it can be shown that these prominent sites did occupy favorable positions with respect to EB II interaction networks, albeit at a varying range of scales. We can start "bottom-up" by exploring the emergence of central places in local networks. Spatial modeling based on the configuration of islands simulates patterns of interaction between dispersed EC II communities. Fig. 3.4 illustrates one such experiment using a technique known as proximal point analysis, where each point is joined to its three nearest neighbors, creating a network that can suggest how places linked up under EC II conditions. Certain locations (indicated by larger dots) attract more links from their neighbors, and indicate the best-connected points. Of those revealed in Fig. 3.4, one appears among the small islands at the heart of a dense network between Naxos, Amorgos, and Ios, precisely the location of Daskaleio-Kavos on Keros. Another focus is indicated in east-central Naxos (Grotta–Aplomata?). In the northeast, foci are predicted on Tenos, not the opposing coast of Syros, but a central place clearly is expected in this part of the Cyclades, and the rise of Chalandriani–Kastri may represent the role of localized factors, such as the dramatic visual control over the sea and islands from this point (Fig. 3.2). Other centers demand explanation at different scales of analysis. Ayia Irini's position is marginal to the Cyclades

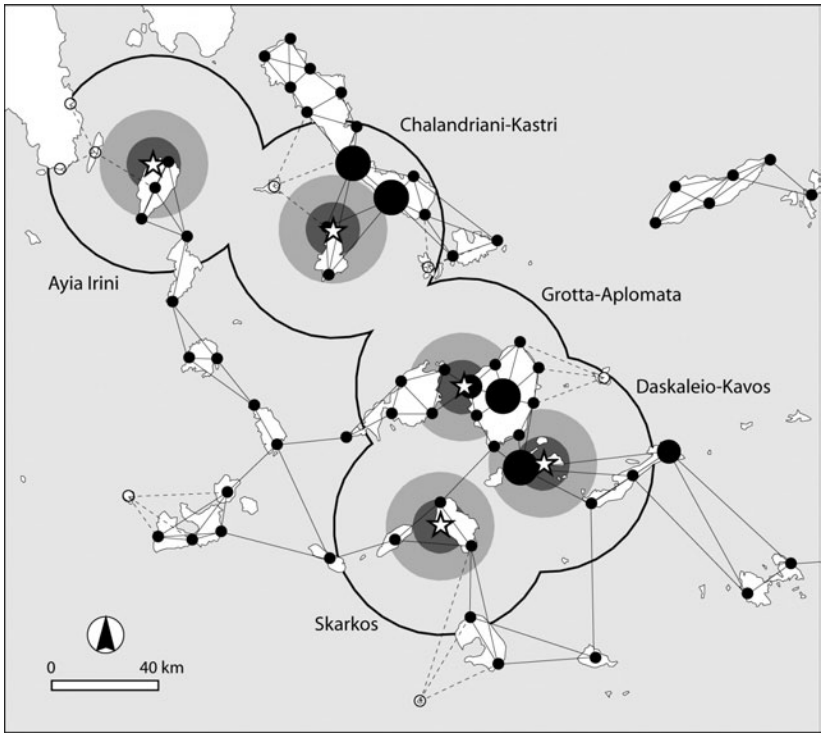

figure 3.4. Proximal point analysis exploring centrality within EB II Cycladic networks (larger dots show the best connected areas), compared to the locations of known major sites (stars) and the one-day travel range of a (i) there-and-back journey in a small canoe (dark shading), (ii) one-way journey in a small canoe (medium shading), and (iii) one-way journey in a longboat (dark line). Drawing by Andrew Bevan. Courtesy of the author.

(indeed, its material culture in EB II is more Attic than Cycladic) but pivotal to long-range interaction between the Cyclades and the mainland, especially the metal-carrying sea routes between the western Cyclades and Laurion.[66] It has recently been suggested that Skarkos enjoyed a preferential position at the juncture of trans-Cycladic north–south and east–west routes, which funneled south toward Thera.[67] One final aspect of this structured spatial approach to the location of central places is that it enables us to evaluate the likelihood that others existed elsewhere – for example, at Akrotiri on Thera, whose Early Bronze Age history is being revealed beneath later levels (Chs. 4, pp. 90, 94–5; 5, pp. 128–9; 8, pp. 189–93), and which could have served as a southern gateway, like Ayia Irini in the north.

An Altered Archipelago

Rip van Winkle, had he fallen asleep in the Cyclades during later EC II and woken in the Middle Bronze Age, would have been astonished by the transformation in the islands. In place of dispersed communities with a number of maritime nodal points among them, he would have seen the beginnings of a "nucleated" landscape of island towns, often just one per island, and situated on good arable land beside sheltered harbors.[68] Chalandriani–Kastri and Daskaleio–Kavos, once vibrant centers, were deserted. Longer inspection would have revealed more, including large, probably family-related rock-cut tombs, and a quite different material culture, despite hints of its descent from EC II. When he turned toward the sea, Rip would have noticed strange sea-craft, ships with deep hulls, long oars, and sails, faster and more capacious than any canoe. Had he been able to board one, he would have encountered few paraphernalia of the kind that probably packed the bilges of a canoe, and instead forms such as the so-called "duck vase," the Aegean's first specialized liquid transport shape, indicative of a commodity-oriented trade among a swath of islands from Aegina through the Cyclades to the southeast Aegean.[69] How had this transformation come about? How did the EB II world end?

If his eyesight were good, Rip might also have noticed the massive outlines of the first Minoan palaces emerging far to his south (Ch. 5, pp. 109–10, 117). But although in the first half of the second millennium BCE palatial Crete increasingly influenced island societies in what now constituted its economic and cultural periphery (Ch. 8), the roots of the changes lie in the last centuries of the third millennium BCE, the EB III period. EC III is even more problematic in its interpretation than the contemporary EH III period on the Greek mainland (Ch. 2, pp. 36–8) or the latest Prepalatial of Crete (Ch. 5, pp. 109–10). Indeed, the lack of a demonstrably continuous stratigraphic sequence between EC II and the Middle Bronze Age at a single Cycladic site, and the changes in customs summarized above, have contributed to the identification of a "gap" in the Cyclades during EC III, at least in terms of our knowledge, if not in ancient reality.[69] According to this reasoning, the Phylakopi I culture, which represents the first post-EC II material in the Cyclades (and is named after well-attested Melian examples), dates to the start of the Middle Bronze Age. It is not certain that this gap can be filled, but tantalizing hints have emerged, most recently a grave at Rivari on Melos, which contained EC II-type jugs, jars, and bowls, plus a Phylakopi I culture duck vase.[70] In the light of such finds, the

most plausible solution is that people did indeed continue to inhabit the Cyclades during EC III, using late versions of EC II types, prototypes of Phylakopi I culture objects, and intermediate forms at present unknown. But this does not in itself explain the transformation that island life was clearly undergoing.

It is hard to identify the appropriate scale of explanation for this transformation, given that EB III is a time of dramatic, if diverse, change throughout the Aegean and also beyond (Chs. 2, p. 36; 4, p. 98; 5, p. 109). For example, the broadly simultaneous demise of Old Kingdom Egypt and the Akkadian Empire has been linked to severe climate change over much of the Near East at this time; if this shift is confirmed and applicable to the Aegean too, it could have swatted out life in some parts of the Cyclades, and led to radical cultural responses in others.[71] To adopt a narrower Aegean perspective, maybe the EH III "collapse" and political processes on Crete somehow disrupted Cycladic long-range trade – although it should be noted that the old pathology of Anatolian invaders must be discounted in light of the fact that the Kastri group shapes appear in the Cyclades a whole ceramic phase before the changes that need to be explained. To focus still more tightly, did spirals of social competition at EC II trading centers cause them to implode – a "bust" after their "boom" – or did the farming practices that were ideally suited to initially settling the islands prove destructive of fragile environmental niches in the long term?[72] It is hard at present to assess the relative merits of these various suggestions, some of which are mutually compatible. What we can do is interrogate observed developments in the Cyclades for specifically insular perspectives.

Two features seem critical. The first is the shift toward a nucleated settlement pattern, for such population drift would in effect explain the demise of innumerable dispersed sites. The close associations of the dispersed way of life with both burial customs and the symbolic elements of material culture might in turn allow us to understand why the older forms disappeared. The second important change is the adoption of a new nautical technology. The origins of the seagoing sailing ship lie between the Nile delta and the Levant in the third millennium BCE, if not slightly earlier. The first horizon of depictions in the Cyclades and Crete suggests that they spread into the Aegean around the transition from the third to the second millennium BCE (Ch. 5, p. 115).[73] It is no coincidence that Aegean exchanges with the Near East increased at this time. These two developments may in fact be intimately connected. Faster, larger ships would have out-competed and bypassed canoe networks, thereby undermining the old ideology of

voyaging, and also enabled bulk mobilization and movement of crops and other cargoes on a hitherto unimaginable scale. Simultaneously, they exposed islanders to attack by outsiders, and required anchorages. In combination, these factors militated in favor of the coalescing of people at large coastal settlements close to good arable land and harbors, for both safety and advantage. The result was the creation of a Cycladic landscape more familiar to modern eyes, and one crucial to the dynamics of these islands for the remainder of the Bronze Age. It ended forever the differently structured, subsequently lost world of the Early Bronze Age islanders.

Suggestions for Further Reading

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Notes

1 This chapter is a condensed version of the portrait of these islands and their early islanders presented in C. Broodbank, *An Island Archaeology of the Early Cyclades*. Cambridge: Cambridge University Press 2000. It also takes into account new developments, notably at Rivari, Skarkos, Strophylas, and Tsikniades, as well as archaeometallurgical work on Seriphos. I thank Marisa Marthari, Olga Philaniotou, and Christina Televantou, whose excavations constitute the current vanguard of exploration of the EBA Cyclades, for sharing their findings with the scholarly community, and my former Ph.D. student Myrto Georgakopoulou (along with Yiannis Bassiakos) for advancing our understanding of Cycladic metallurgy. This chapter has been streamlined and improved by comments from John Cherry, Jo Cutler, Jack Davis, Myrto Georgakopoulou, Laura Preston, Jeremy Rutter, Susan Sherratt, Lindsay Spencer, Todd Whitelaw, Jim Wright, and my collaborators in this volume's coverage of the EBA Aegean, Dan Pullen and David Wilson.

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4: Early Prepalatial Crete

David Wilson

Introduction

Crete is by far the largest of the Greek islands (ca. 8,200 sq. km), about 250 km west–east and 57 km north–south at its widest point in the center; this makes it over three times the entire land mass of the Cycladic islands. The topography of the island divides it into five main regions, each defined by a mountain range, extensive arable – usually coastal – plain, and good harborage.

1. *Western Crete* – The White Mountains (highest point at 2,453 m) limit settlement to the long north coastal plain, with Early Minoan sites of note at Nopigeia and Chania, the funerary (?) caves of Perivolia and Platyvola, and the "shepherds' compound" at Debla.
2. *Rethymnon* – This region on the north coast is roughly equidistant between west and central Crete. The major coastal settlement was at Stavromenos, from which an overland route leads south to the Mesara via the Amari valley. Throughout the Minoan period this route would foster cultural links between the two areas.
3. *North-Central Crete* – The center of the island is dominated by the Idaean mountain range (peak at 2,465 m) that separates the north coastal plain of Herakleion from the Mesara in the south. In the midst of this range is the Idaean cave, which may have had the longest period of sacred use on Crete, from Neolithic through Roman times. Human settlement on the island began in this region, marked by the aceramic Neolithic levels at Knossos. Five km north of Knossos, at the mouth of the Kairatos River, was the principal Neolithic and Bronze Age

port for this area at Poros–Katsambas (Herakleion). South of Knossos was the important Minoan settlement at Archanes and the nearby cemetery at Phournoi. A number of overland routes connected the north coast with the Mesara Plain in the south.

4. *South-Central Crete* – One of the most fertile areas of Crete is the Mesara Plain, stretching from the Bay of Mesara on the west to the Lasithi (Diktaean) Mountains on the east. It is bounded on the north by the Idaean Mountains and separated from the south coast by the Asterousia Mountains, which plunge precipitously into the Libyan Sea. The largest EM settlements were at the west end of the plain, at the later palatial centers of Phaistos and Ayia Triada, both overlooking the fertile Yeropotamos River valley. The nearby coastal site of Kommos may have been one of the principal seaports for this region. Dozens of EM **tholos** tombs (round domed tombs) have been found both in the plain and over the Asterousia range along the south coast.
5. *Eastern Crete* – Mountains divide this region into a number of separate areas. The Lasithi Mountains (peak at 2,148 m) are a formidable barrier between central and eastern Crete; contact between these two regions would always have been easier by sea than by land. At the north end of this range is the upland plateau of Lasithi, which was settled at least as early as EM I. A coastal plain north of Lasithi had its center of occupation at the later palatial site of Malia. Immediately east of the Lasithi Mountains on the north coast is the large Bay of Mirabello, an area well populated in EM, including the sites of Gournia, Mochlos, and Vasilike and the offshore island settlement on Pseira. The island is narrowest here, at the Isthmus of Ierapetra, which runs south from the bay for a distance of only 12 km to the south coast, and the settlements of Myrtos–Phournou Koriphi and Myrtos–Pyrgos. Rising immediately east of the isthmus is the Thrypti mountain range (peak at 1,476 m.) and east of that the Bay of Siteia on the north coast, with EM settlement at Petras. Five km beyond that is the large EB I cemetery at Ayia Photia. Beyond Siteia a barren upland plateau covers most of the remaining eastern end of the island. Hugging the extreme east coast of Crete are a number of small coastal plains with settlement and burial remains at Palaikastro to the north and the rock shelter burials in the gorge above the later palatial center at Zakros to the south.

The long east–west configuration of the island makes it the southern boundary of the Aegean basin. North of Crete are dozens of islands that compose the Cyclades, with which Crete had its strongest off-island contacts in the Early Bronze Age (Ch. 3). The two linchpins linking central Crete with the island transportation network and ultimately with the Greek mainland were Melos and Thera. Contacts between western Crete and the mainland would have been along a much more westerly route, from the Bay of Kisamos via the islands of Antikythera and Kythera to the southeast coast of the Peloponnese. In contrast, the orientation of eastern Crete drew this region into the sphere of the southeast Aegean, and via Kasos, Karpathos, and Rhodes to the southwest coast of Anatolia. These differing maritime routes of exit and entry into Crete had a significant influence on regional cultures within the island in the Early Bronze Age.

Crete's sheer size, its varied and dominating natural landscape, and the multiple points of entry from outside caution against writing a single history of the Bronze Age for the island or viewing it as a homogeneous cultural whole. This chapter highlights the marked regionalism across Crete in the earlier Prepalatial period (EM I–EM IIB), offering a more varied and fragmentary picture than previous surveys. The significant regional differences can only be understood if the island is viewed in its larger Aegean context. Any history of Crete must also consider the island's foreign contacts, who had access to it, and what effects these interactions had on the island population.

The Beginning of the Bronze Age: Early Minoan I

Crete had been occupied already for some four millennia when a significant number of changes occurred in the material culture that marks the beginning of the Bronze Age. How these changes are to be interpreted depends on the length of time in which they occurred, and whether they were largely of indigenous origin or were introduced or influenced to some degree from outside.[1] There are at present no radiocarbon dates from Crete (or indeed the southern Aegean generally) to date the end of the Final Neolithic. But an argument can be made that the start of the Early Bronze Age not only in Crete but also in the Cyclades and southern Greek mainland was not much before the end of the fourth millennium.[2] Looking ahead to a possible starting date

of around 2700 BCE for EM II, it appears that EM I on Crete lasted at most half a millennium (Fig. 1.1).

Pottery is the essential artifact that can tell us both about relative chronology and about interactions between different regions. From the very beginning of the Bronze Age, pottery production in Crete was regionally based and surprisingly specialized; not all EM I–IIB wares were produced in every region, consumed in the same quantities, or equally distributed across the island. Shared ceramic features and exchange of wares on an interregional basis are nevertheless sufficient to establish a broad relative chronology for most areas of Crete in these early periods.

A reevaluation of the Neolithic sequence at Knossos has now made it possible to define the last phase of Final Neolithic at this site and to show at least some continuity in ceramic wares from the Final Neolithic to Minoan.[3] In some areas of Crete it may now be possible to divide EM I into an early and late ceramic phase, as has recently been argued for Phaistos.[4] The early part of EM I is still somewhat thinly represented on Crete. It cannot be clearly defined at Knossos but is found in the nearby Eileithyia cave at Amnisos; in south-central Crete at Phaistos, at Partira, and in the earliest levels of tomb II at Yerokampos–Lebena; and in east Crete at the settlements of Kephala–Petras and Palaikastro–Kastri.[5] Most of the EM I deposits, however, belong to later EB I in Aegean terms, and the following survey of EM I on the island focuses on this phase.

The three principal wares that define EM I, and occur to varying degrees across the island, are dark gray burnished, dark-on-light painted, and wiped/scored. (1) Dark gray burnished ware, often with rectilinear pattern-burnished decoration, occurs largely in only two shapes: the drinking chalice (Fig. 4.1) and the large pedestaled serving bowl. It has conventionally been referred to as Pyrgos ware after the burial cave site in north-central Crete where it was found in some quantity. (2) Dark-on-light painted ware is characterized by a new decorative technique and a range of new shapes, most notably the jug with cutaway spout, for which there are no Neolithic precedents. The term Ayios Onouphrios ware is also used for this group, but again site-specific labels should be avoided. Its production appears to have been largely in central Crete, with at least one major source in the Mesara. From here round-bottomed jugs (Fig. 4.2) and two-handled bowls with horizontal and vertical striping were widely exported; they are found in burial caves and cemeteries in both north-central and east Crete. (3) Wiped or scored ware is found throughout the island in EM I. It generally occurs

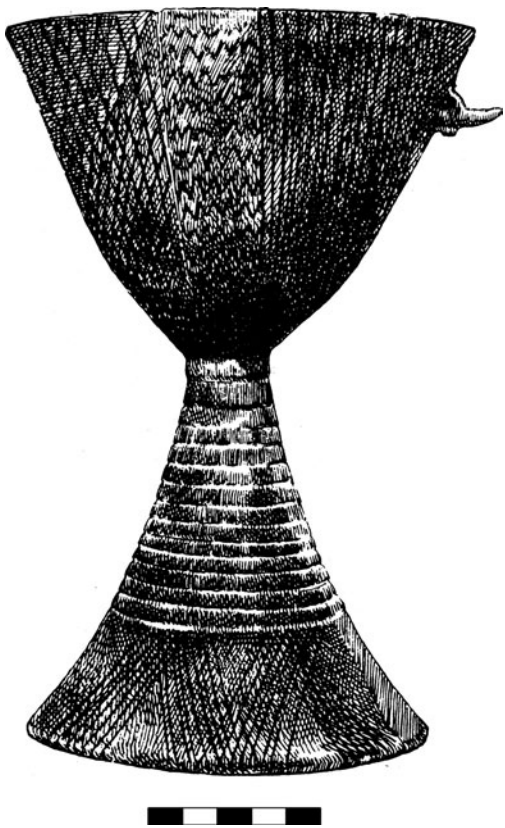

figure 4.1. Dark gray pattern-burnished chalice from the Pyrgos burial cave, EM I. A. J. Evans, *The Palace of Minos at Knossos*. London: Macmillan 1921–1935, I, fig. 19.B.

in large water jugs, deep bowls, and storage jars and has a heavily wiped or even scored surface, which in some cases is pattern-wiped, possibly to mimic the decorative scheme of dark-on-light painted pottery of the same period.

Settlement deposits would provide the best record of the ceramic sequence for EM I Crete, but they are rare and very fragmentary, due in part to continuous building and disturbances at all the major Minoan sites. It does appear that settlements were not as common as they would be later, in EM IIA. Much of what is known about EM I Crete, then, comes from burial contexts, which pose their own problems: tombs were often used over a relatively long period and their deposits are usually disturbed. Despite the limitations of the archaeological evidence,

though, it is clear that considerable variation in the material culture of the island existed at this time, even within the same region.

The most detailed archaeological record for EM I is found in central Crete. The focus of settlement in the north was in the coastal plain of Herakleion and the areas to its east and south toward and around Mount Iuktas and Archanes. Although Knossos had until recently been assumed to be the major settlement in this region, the finds from its port at Poros–Katsambas have significantly changed this view. Poros is now emerging as a gateway port and center of specialist craft production, including obsidian working and bronze metal casting.[6] In sharp contrast to the contemporary EM I deposits at Knossos, where all the pottery is Minoan in character, nearly a third of the pottery at Poros is of a Cycladic style; the closest ceramic links are with the late EC I Kampos Group burial pottery from Epano Kouphonisi off the southeast coast of Naxos (Chs. 3, p. 63; 9, pp. 210–12). This linkage is part of a larger picture of strong Cycladic contact that includes the Cycladic/Cycladic-style pottery found in the nearby Pyrgos and Kyparissi burial caves and the cemetery at Gournes,[7] along with the hundreds of graves of a Cycladic type from the east Cretan cemetery at Ayia Photia (below). Although the inclusion of Cycladic type pottery with Minoan material in EM I cave burials may be interpreted simply as a liking on the part of Cretans for foreign exotica, the actual Cycladic tomb types and pottery at Gournes and the quantities of Cycladic style pottery in domestic contexts at Poros imply a level of interaction with the Cyclades in this region well beyond casual and periodic contact or exchange. This marked Cycladic interaction and even settlement in late EM I Crete appears for the moment largely limited to the north-central coast and much further east in the Bay of Siteia area at Ayia Photia.

In addition to the ceramic evidence of Cycladic contact at EM I Poros, large quantities of obsidian working debris indicate a scale of blade production well above the household or local community level. Poros' position at the northern terminus of the main overland route(s) south via Knossos and Archanes to the Mesara may suggest where at least some of the obsidian (worked or not) was going.[8] Another, probably far more valuable, commodity being imported from the Cyclades to Poros was metal, including smelted copper and possibly silver-rich lead ore for the casting of daggers and other objects.[9] This metallurgical evidence from Poros, a silver necklace from the nearby cemetery at Gournes, and the bronze daggers and other objects from the cemetery at Ayia Photia all show that metal working in Crete did begin in EM I.[10] Preliminary analysis of the Ayia Photia bronzes suggests one possible copper ore

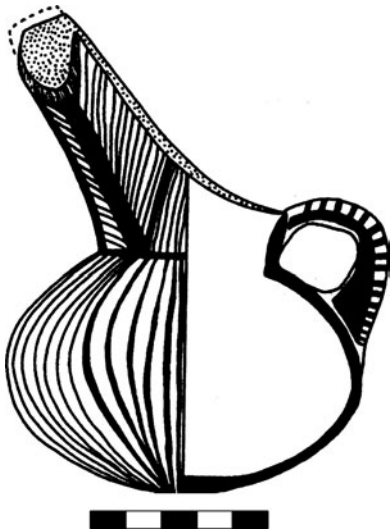

figure 4.2. Dark-on-light painted round-bottomed jug from Lebena Tholos Tomb II, EM I. S. Alexiou and P. M. Warren, *The Early Minoan Tombs of Lebena, Southern Crete*. SIMA 30. Sävedalen: Paul Åströms Förlag 2004, fig. 22 no. 98. Courtesy of Peter Warren.

source from the western Cycladic island of Kythnos. The technology of working metal ores probably also came from or via the Cyclades, as well as the inspiration for at least some of the metal types, including mid-rib long daggers.

Knossos, only 5 km south from Poros down the Kairatos Valley, presents in its limited remains a very different picture. There is no evidence here for the level of craft production seen at Poros, nor is there any trace of the Cycladic style pottery so common there. Clearly the two sites must have been linked in some way because of their geographic proximity and because they shared identical Minoan wares that appear to come from the same source(s). But whereas Poros was a center of foreign exchange and the production of high-status commodities, Knossos may have served as a forum for other types of social activity. The most significant EM I deposit at Knossos is from a deep well full of communal drinking chalices and serving vessels, possibly remnants of ceremonial drinking and feasting activity. Knossos for much of its Minoan history was arguably a center of ceremonial consumption very much rooted in the symbolic meaning of the site as one of ancestral origins, and for this reason as a source of social and political power (below, p. 95; Ch. 5, p. 114).[11]

South-central Crete saw an expansion of population and an increase in overall settlement numbers in EM I from the preceding Neolithic.[12] The two main settlements in the Mesara were Ayia Triada and Phaistos, only 2 km apart. Dark-on-light painted pottery from the Mesara is found widely distributed in both north and east Crete at this time, especially in burial contexts. However, far more valuable goods were moving into the Mesara from the north, including obsidian and cast metal objects destined for the richer of the tholos tomb burials in southern Crete. Both Ayia Triada and Phaistos have yielded large numbers of drinking and serving vessels in dark gray pattern-burnished ware, so large-scale ceremonial feasting took place there as well as at Knossos.[13] It is not a coincidence that these same sites became the focus of public ritual and monumental building in the later palatial periods (Ch. 6, pp. 141–2,146–9,151–2).

The best-preserved archaeological remains in the Mesara are the new circular built tombs or tholoi, which have no antecedents on the island (Fig. 4.3). These tombs are found largely in and around the edge of the Mesara Plain; a smaller number are located in the foothills of the Asterousia Mountains and on the south coast, notable among them being Tholos II at Lebena.[14] These tombs are the largest preserved built structures on Crete at this time. Their construction represents a considerable investment of time and labor, and they were permanent repositories for substantial material wealth. The grave goods of obsidian blades, metal objects, and fine ware drinking/serving vessels imply a level of status and ritual activity at least comparable to the elite burials of north-central Crete.

Most if not all of these tholos tombs were used for multiple **inhumations** (burials) over a very long time span, some well into the Protopalatial period, so the precise dating of finds in usually very disturbed and/or looted contexts is difficult. Well over thirty tombs, however, contain pottery dating back to EM I;[15] these numbers suggest that each tomb may have belonged to a single family or extended family that resided in or had links to the locality in which it was built. Paved areas and large deposits of drinking and serving vessels are found just outside many of the tholoi; we can imagine that ritual visits continued after the initial burials, and possibly ancestor worship. In most cases the entrance faces east, perhaps a deliberate orientation to the rising sun, symbolically associated with regeneration or even rebirth.[16] The monumentality of the tholos tomb, its high visibility in the social landscape of the Mesara, and its very long period of use stand in sharp contrast to the Cycladic-style cemeteries at Ayia Photia and Gournes on

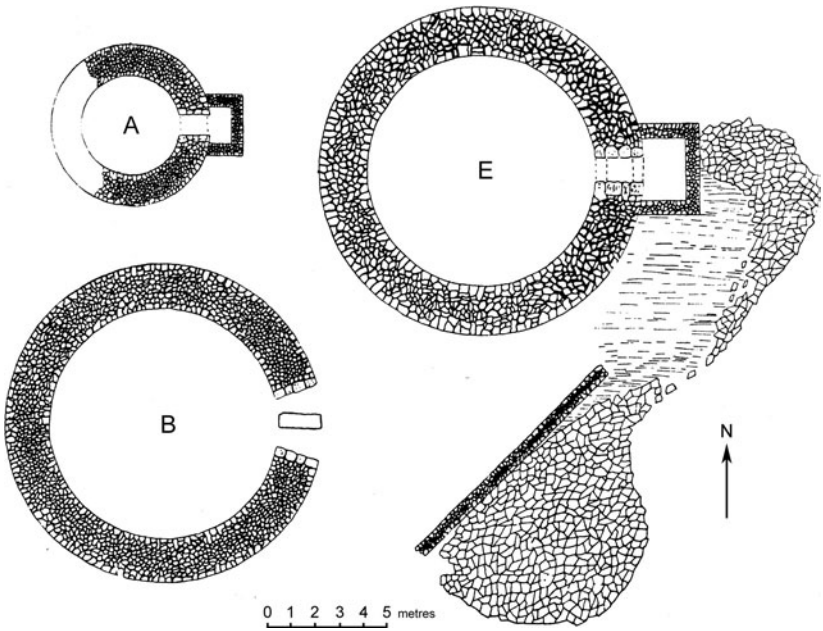

figure 4.3. Plan of the Early Minoan tholos tombs at Koumasa in the Mesara. S. Xanthoudides, *The Vaulted Tombs of Mesara*. Liverpool and London: University Press of Liverpool and Hodder and Stoughton Ltd. 1924 (reprinted 1971), pl. LXI.

the north coast, where many of the shallow rock cut tombs were used for just one burial. Although the north and south shared pottery wares and possibly their social function and meaning, the restriction of direct Cycladic contacts to the north and the different tomb architecture in the two areas suggest that two quite different population groups may have occupied the center of the island in EM I.

A considerable gap in the archaeological record exists for west Crete for the start of the Minoan period, with the exception of Chania and the area south of it. Heavily wiped and/or scored ware links early deposits from this region with those from central and east Crete. The best preserved finds come from an isolated "shepherds' compound" at Debla perched in the foothills of the White Mountains, and from the burial cave at Platyvola. The rich finds from the latter rival those of the Pyrgos cave in central Crete and may suggest an elite use of this cave that continued in EM II.

East of Poros, the next major area of settlement along the north coast is in the region of the fertile Malia plain. Ceramic evidence for EM I is very slight for the palace area, due to later building. South of

Malia in the foothills leading up to the Lasithi Plain is a tholos tomb at Krasi – the ceramic finds here match the central Cretan wares well, including Mesara dark-on-light painted. High above Malia and Krasi in the mountains of Lasithi, at least two caves at Trapeza and Psychro were used for burials in EM I – a practice also seen in north-central Crete. By the palatial period both caves would be used for sacred offerings, and like other Cretan caves may have had special significance as liminal zones to the underworld.

In the Bay of Mirabello and Isthmus of Ierapetra, field survey has shown new settlement in EM I:[17] an EM I house at Kalo Chorio just inland from the bay provides the first stratified settlement deposits for this region.[18] Pottery here includes dark pattern-burnished goblets/chalices and pedestaled bowls similar to those from central Crete, as well as dark-on-light painted jugs and jars, and fine gray ware with possible links to the Mesara. Burials of this period occur in the cemetery at Pseira, in a number of small to large tombs built of field stone or upright slabs.[19]

East of Mirabello is the fertile plain around the Bay of Siteia, where significant remains of EM I settlement have been found at Kephala–Petras. Just east of Petras is the coastal cemetery of Ayia Photia, with 300 or more rock-cut tombs.[20] Most consist of a small shallow burial chamber with a pebbled floor and a narrow entrance blocked with an upright stone slab, which separates the chamber from an anteroom or shaft. Until the recent discovery at Gournes in north-central Crete, this tomb type was paralleled elsewhere only at the late EC I Kampos Group cemetery at Agrilia on the island of Epano Kouphonisi, some 200 km to the north (Chs. 3, p. 63; 9, pp. 211–12). Ayia Photia has the largest known cemetery in the EB I Aegean, at least two to three times the size of any contemporary burial grounds in the Cyclades.[21] Most people were buried with pottery: the **pyxis** (small box) was the most common shape, but we do not know what it contained (Fig. 9.1; Pl. 9.2). The richest burials also contained rare metal objects, including bronze mid-rib long daggers. Analyses have shown that much of the copper ore likely came from the Cycladic island of Kythnos and Laurion in southern Attica; Laurion is also the ore source for a unique silver animal pendant.[22] Blades of Melian obsidian were also found in some of the tombs.

The Cycladic character of the tombs at Ayia Photia is strongly reinforced by the pottery found in them, which is largely non-Minoan (Fig. 9.1; Pl. 9.2). This style of pottery is found elsewhere on the island only in north-central Crete in cave burials and in the cemetery at

Gournes, and off the island in the Cycladic tomb finds from Epano Kouphonisi. This phenomenon of Cycladic settlement on Crete in late EB I appears to have been relatively short-lived, because contacts with the Cyclades in EM IIA would be of a quite different nature. But in this period of relatively rapid and dramatic cultural change in the south Aegean in late EB I, it appears that the cultural boundaries between north coastal Crete and the islands were far more fluid than they would become in EM IIA, at least for central and eastern Crete.

Early Minoan IIA

The archaeological evidence for EM II is much greater than that for EM I; settlement and population expanded, and this growth has left more visible traces in the archaeological record. Based on ceramic synchronisms with the Cyclades and the Greek mainland, the start of EM II may be placed around 2700 BCE, the end at around 2200 BCE (Fig. 1.1).[23] In ceramic terms EM II covers at least the Keros–Syros and Kastri Group (late EC II) phases in the Cyclades, and all of EH II on the mainland. In most areas of Crete we can define two main ceramic phases, EM IIA and EM IIB. Different regions shared enough stylistic features in both phases to establish a broad relative chronology for the island.

A number of ceramic types characterize EM IIA across the island. Dark gray pattern-burnished ware continued and was produced on a regional basis throughout Crete. Dark-on-light painted was the predominant fine ware in both central and east Crete, but rare in the west. The Mesara produced a distinctive form of fine burnished and painted ware, found in large quantities in the tholoi and as exports in numerous deposits at Knossos.[24] Also from south-central Crete comes a fine burnished gray ware, which occurs as rare exports in the center and east of the island. Among the shapes are pyxides with Cycladicizing features such as slashed handles and stamped triangular and incised decoration. Red to black monochrome slipped vessels became common in EM IIA, especially in west Crete, and would replace dark-on-light painted as the main ware by EM IIB. Neither the dark gray burnished nor fine gray wares continued after EM IIA.

The functionally twinned sites of Poros–Katsambas and Knossos continued to dominate north-central Crete in EM IIA. Knossos underwent substantial reorganization and terracing, and very large deposits of fine wares may be remnants of large-scale drinking and feasting events

figure 4.4. Dark-on-light painted beak-spouted jug from Knossos, EM IIA. D. E. Wilson, "The Pottery and Architecture of the EM IIA West Court House at Knossos." *ABSA* 80 (1985) figs. 22–3 pot 218. Courtesy of the British School at Athens.

at this site (Figs. 4.4, 4.5).[25] Remains of the basement storerooms of a terraced house were found beneath the later West Court;[26] from the fill comes a piece of worked ivory from a hippopotamus tusk of probable Egyptian origin, possibly meant for the carving of seals like those found in the tholos tombs at nearby Archanes–Phournoi. Among the other significant finds are fragments of cast copper objects, clay **sealings** (lumps of clay impressed by a seal; Fig. 1.3) and figurines, stone vases, spindle whorls and loom weights, stone woodworking tools, and obsidian blades. Another building found nearby beneath the later Royal Road included a possible Egyptian obsidian bowl, whose best parallels are from First and Second Dynasty contexts at Abydos.[27] This house also contained a large deposit of worked Melian obsidian, though such evidence for possible craft production at Knossos is sparse at best. Most of the pottery imports at Knossos are fine ware pyxides, goblets, and small spouted bowls from the Mesara. There are, however, rare examples of Cycladic pottery, including island painted and **urfirnis** (semilustrous black slipped) sauceboats and Melian transport jars. The distribution of finds from beneath the later palace and surrounding area at Knossos places the extent of the area in use in EM II at a minimum of 5 **hectares** (a hectare is 10,000 sq. m or about 2.5 acres), making this site by far the largest on Crete.[28]

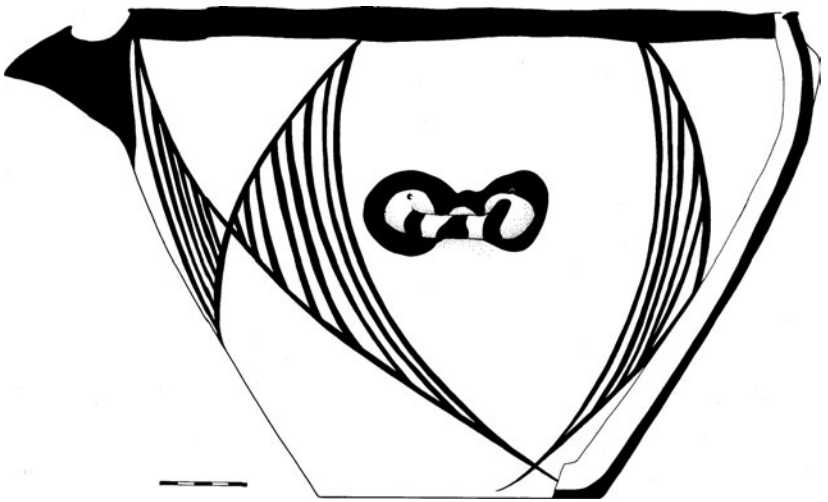

figure 4.5. Dark-on-light painted side-spouted "krater" from Knossos, EM IIA. D. E. Wilson, "The Pottery and Architecture of the EM IIA West Court House at Knossos." *ABSA* 80 (1985) fig. 14 pot 93. Courtesy of the British School at Athens.

Poros–Katsambas continued as the gateway port for north-central Crete and functioned as a regional production and redistribution center, as well as a conduit of off-island materials to the Mesara. As in EM I, a much greater quantity of imported Cycladic pottery was found at Poros than at Knossos.[29] Over three-fourths of these imports are transport jars from a number of different locations in the western and central Cyclades, including examples of Melian "broad-streak painted" ware. The liquid (?) contents of these jars must have been of sufficient value to warrant their shipment to Crete; their real or symbolic value is hinted at by three silver pins from Naxos with transport jar finial heads.[30] The only other imported pottery shape found in any quantity is the sauceboat, in a variety of surface finishes: yellow mottled, urfirnis, and dark-on-light painted (Fig. 2.3 shows mainland examples). Sauceboats very similar in surface decoration and fabric to those from Knossos and Poros–Katsambas have been found widely distributed throughout the Cyclades and even on the coast of western Anatolia, just one indicator of the "international spirit" current in the Aegean at this time (Chs. 2, p. 24; 3, p. 64; 9, p. 212).[31]

It was probably other more socially valued products, however, such as metals, that generated this regular contact by island traders with Poros–Katsambas. Although most of the metal objects found on

Crete in EM I and IIA were probably cast on the island, the smelted ores came from outside: copper from Kythnos and Laurion, silver and lead from Siphnos and Laurion.[32] The sharp drop-off in the amount and distribution of Cycladic pottery immediately outside of Poros–Katsambas in EM IIA suggests that the contexts in which this contact and exchange of goods occurred were very restricted and even in some way controlled. The only certain exports of this period are rare finds of EM IIA pottery of central Cretan type found in the Keros–Syros phase of EC II at Akrotiri on Thera.[33] The paucity of Minoan exports in EB I and II suggests that the agents of this contact and trade were largely non-Cretans, or at least that the flow of archaeologically traceable goods was largely from the islands to Crete. EM IIA was certainly the period of greatest contact between Crete and the rest of the south Aegean in the Early Bronze Age. Further evidence comes from elite burial contexts in north-central Crete at Archanes, Tekes, and the Pyrgos cave.

At least some of the copper long mid-rib daggers in the mixed Pyrgos cave burial deposits probably date to EM IIA, as do the silver daggers and Cycladic and Cycladicizing ("Koumasa type") figurines from the probable tomb at Tekes, a suburb of Herakleion just north of Knossos. The earliest burials at the cemetery of Archanes–Phournoi south of Knossos, in Tholoi Gamma and Epsilon, also date to EM IIA (Pl. 7.4).[34] The especially rich offerings from Tholos Gamma clearly point to high-status burials: they include hippopotamus ivory seals, stone vases, metal objects of copper, silver, and gold including copper daggers (Fig. 4.6) and gold jewelry, and Cycladic and Cycladicizing (Koumasa type) figurines. Of special interest are two seals from Tholos Epsilon whose designs closely match ones from the contemporary EC II settlement of Ayia Irini on Keos just off the Attic coast and the late EH II House of the Tiles at Lerna in the Argolid (Ch. 2, pp. 34–5; Pl. 2.1).[35]

The settlement at Archanes itself also began no later than EM IIA, and it is important to note that the earliest material on the summit of Mt. Iuktas, above the settlement and Phournoi burial site, dates to this same period. As has been argued for Knossos, it is possible that the sacred and symbolic meaning of this mountain was already established by EM II.[36] Mt. Iuktas and Knossos defined the sacred landscape of this region as centers of ritual and ceremony, and both may have played a primary role not only in the consolidation and legitimization of power elites at the start of the Protopalatial period, but also for emerging elites in much earlier Prepalatial times.

In south-central Crete, EM IIA settlement numbers and overall population continued to grow;[37] Phaistos and Ayia Triada surpassed all

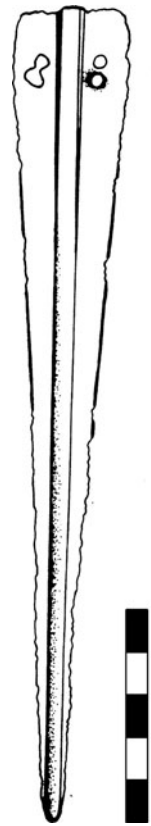

figure 4.6. Long copper mid-rib dagger from Archanes, Tholos Tomb Gamma, EM IIA. Y. Papadatos, *Tholos Tomb Gamma: A Prepalatial Tholos Tomb at Phourni, Archanes*. Philadelphia: INSTAP Academic Press 2005, fig. 19 B10. Courtesy of Yannis Papadatos.

other sites in the Mesara in size. The rich evidence from contemporary tholos tomb burials, some of which continued from EM I, clearly shows the concentration and high level of material wealth and prosperity in the Mesara at this time (Fig. 4.3).[38] All these tombs had hundreds of fine ware drinking and pouring vessels used in funerary rites or post-burial rituals, as well as highly decorated fine gray pyxides, which may have contained perfumed oil. The nonceramic finds include stone vases, stone and ivory seals, imported Cycladic or Cretan folded-arm marble figurines (Fig. 3.1), gold jewelry, obsidian blades, and copper/bronze daggers and other implements. All this evidence argues for an expansion of specialized craft production as well as of conspicuous consumption

and display. Although many of the raw materials for the production of these goods came from outside the Mesara, possibly from the Cyclades via north-central Crete and Poros–Katsambas, the finished products may well have been made locally. These include obsidian blades, ivory seals, and short triangular-shaped "daggers" or knives of a type largely restricted to the Mesara.[39]

What may be reconstructed of religious ritual through all of EM in this region is largely restricted to burial practice, although Phaistos, like Knossos, may have had a central symbolic meaning and function well before the first palace was built in MM I. The elaboration of tholoi and an expansion of funerary ritual in EM IIA in the Mesara may suggest that the burial context was not just an arena for ritual connected with death, but also one potential source of social power for emerging elites.[40] A similar pattern can be argued for other regions of the island in EM IIA.

Westward from central Crete, EM IIA is found at the coastal site of Stavromenos near Rethymnon, whose ceramic links not surprisingly point to both north and south-central Crete. Further west, EM IIA settlement deposits occur in a number of locations beneath the modern town of Chania, as well as to the south at Debla and in the rich burial deposits of the Platyvola cave. Among the ceramic finds from both places are urfirnis sauceboats and a local pyxis type with incised decoration on the shoulder that is not found elsewhere on the island. In addition, dark-on-light painted ware, which was such a common feature in central Crete at this time, was relatively rare in the west. West of Chania, the EM IIA settlement site of Nopigeia overlooking the Bay of Kisamos had an even more strikingly regional ceramic assemblage than the Chania area. Here, common finds include "saucers" or medium-sized bowls, jugs, open jars with plastic rope or finger-impressed bands, and portable hearths with stamped zigzags on the rim.[41] These shapes and decorative features did not originate on Crete, but are paralleled on the southern Greek mainland and in the western Cyclades. These non-Minoan features may have come in via the island of Kythera, which lies on the direct sea route between Crete and the southeastern tip of the Peloponnesian mainland. Pottery found at the EH II settlement of Kastraki on Kythera is similar to that at Nopigeia.[42]

Moving east from north-central Crete, there is evidence of occupation at Malia, including building remains beneath the later palace,[43] and the small tholos tomb at Krasi to the south was still in use. People continued to occupy the Lasithi plain and use the Trapeza cave. In the Mirabello region, evidence of EM IIA occupation is far more plentiful

than in EM I, in both domestic and funerary contexts. The beginning of the period saw marked growth: important settlements and/or cemeteries were established or expanded at Gournia, Mochlos, Pseira, and Vasilike and southwest of the isthmus on the coast at Myrtos–Phournou Koriphi and Myrtos–Pyrgos. At Gournia in the EM IIA cemetery, House Tomb III contained fine gray-ware pyxides from the Mesara and fragments of copper and gold metal. The lack of metal finds in the contemporary but more modest nearby rock shelter burials (V and VI) suggests some social stratification within this community, although even these burials had imported pottery from central Crete.[44] The richest of the burials in this region, however, were found in the house tombs at Mochlos, where nearby settlement traces date at least as early as EM IIA.[45] The two large house tomb complexes I/II and IV/VI on the West Terrace were first built in EM IIA, and continued in use into MM. The lowest burial strata of EM IIA were unusually rich in fine carved stone vases; jewelry of gold, silver, rock crystal, and faience; ivory; and short triangular daggers of Mesara type.[46] An imported silver cylinder seal of Syrian type from Tomb I may also belong in this early context.[47]

The burial practices found in the house tombs of Gournia and Mochlos are similar to those of the Mesara tholoi. All held multiple inhumations, often over centuries; periodically the tomb was cleared and usually only the skull was retained. Sufficient evidence remains to make some suggestions regarding funerary ritual in both central and east Crete.[48] Family members would place offerings of food and drink with the initial interment, possibly to provide sustenance for the dead while they still dwelt in the tomb. The decomposition of the body marked the next stage in the burial rite, when the spirit of the deceased made the final journey into the afterlife. Reverence was still paid to the dead at the burial site, however: for centuries after the initial interment, offerings continued in subsidiary rooms or ossuaries used for the storage of at least the retained skulls. The Minoans clearly practiced some form of ancestor worship, and the beliefs and practices persisted from the Prepalatial into the Protopalatial period.

Although the details of tomb offerings vary between the two regions, central and east Crete show the same conspicuous consumption of high-status goods, including prestige pottery wares; metal objects of copper/bronze, silver, and gold; stone vases; stone, ivory, and bone seals; and obsidian blades. Only the Cycladic or Cycladicizing (Koumasa type) figurines and mid-rib long daggers (Fig. 4.6) that feature prominently in the central Cretan tombs appear to be largely missing in the east.

Nor do there appear to be any off-island pottery imports, Cycladic or Helladic, in EM IIA east Crete, despite the clear import of raw materials from the Cyclades, mainland Greece, and the Near East (obsidian, gold, silver, copper, ivory, rock crystal, and faience). The tombs at Mochlos rival or surpass the Mesara tholoi in terms of the quantity of gold found and may suggest more direct and frequent contacts with or at least more ready access to Near Eastern supplies of such high-status goods.

Near the north end of the Isthmus of Ierapetra and the Bay of Mirabello is the site of Vasilike. This settlement was probably established in EM IIA, although large-scale building began here in EM IIB. The isthmus linked the Mirabello region with the south coast settlements, including that of Myrtos–Phournou Koriphi, also founded in EM IIA.[49] Surprisingly, the ceramic links of Phournou Koriphi are not with the Mirabello region at this time but look west to the Mesara.[50] East of Mirabello, recent excavations at Petras show settlement in EM IIA, and the site may have been the focus of activity in the Siteia Bay area from this early date, if not before. At the extreme eastern end of the island at Palaikastro, the earliest burials are found in tomb I, built in EM IIA.

Late in EB II in the south Aegean, a striking group of Anatolianizing vessel types appear at a number of largely coastal sites in the Cyclades and south-central Greek mainland in Boeotia, Attica, and Euboea (the Kastri/Lefkandi I group; Chs. 2, pp. 35–6; 3, p. 61; 9, p. 213).[51] None of these Anatolian-style drinking and pouring vessels appear to have been adopted on Crete, although they reached as far south as Melos and Thera. A new shape does exist, however, in the late phase of EM IIA at Knossos: the shallow bowl or deep plate. Variants occur in large numbers elsewhere in the south Aegean as part of this Anatolianizing ceramic sphere, and the appearance of the shallow bowl at Knossos may be part of the same phenomenon. If so, we have an important chronological synchronism between the latest EM IIA on Crete and the beginning of the late EC II Kastri Group phase in the Cyclades and the late EH II Lefkandi I phase of Euboea and the Attic–Boeotian mainland.

Early Minoan IIB

The EM IIB period on Crete may have been partly or wholly contemporary with the Kastri/Lefkandi I Group of the later EB II southwest Aegean. This synchronism is based on EM IIB pottery found in late

EC II Kastri Group contexts at Akrotiri on Thera,[52] which is also contemporary with the House of the Tiles phase of late EH II Lerna in the Argolid.[53]

Outside of a few well-documented and -published sites (Knossos and Myrtos–Phournou Koriphi), little is known in detail of the character of EM IIB pottery in most areas of the island. From the limited evidence available, however, people did generally appear to prefer dark (red or black) monochrome slipped fine ware to dark-on-light painted, and the use of light-on-dark painted decoration became increasingly common. The most recognizable and widely found pottery of EM IIB is the striking red/black mottled Vasilike ware, named after the site in the Mirabello region of east Crete where it was first found in quantity (Pl. 4.1). This region was one of its primary sources; exports are found in central Crete, including Knossos, as early as late EM IIA. The often metallic finish of Vasilike ware, as well as the shapes and finishing detail, almost certainly imitated metal vessels. The pottery of this group comprises tableware for eating and drinking,[54] so the metal links suggest some symbolic meaning attached to this pottery in terms of its social function and value.[55]

By far the largest EM IIB deposits of pottery in north-central Crete come from the area of the later palace at Knossos.[56] The most common fine ware shapes that occur in very large quantities are the footed goblet ("eggcup"), shallow bowl, and pouring vessels. The latter include side and long-spouted jars ("teapots"), which probably reflect the ceremonial nature of this site and the large-scale social practices carried out here. These shapes began in late EM IIA at Knossos; as in the case of Vasilike ware, the footed goblet and the long-spouted jar (teapot) probably were based on metal prototypes. Almost nothing is known of this period at the nearby port settlement of Poros–Katsambas, in striking contrast to the marked activity there in the preceding EM IIA phase. At Archanes there is no clear evidence for any burials in the rich Phournoi cemetery, in spite of continued settlement within the town.[57] The burial caves of this region, including that at Pyrgos, also appear to have fallen out of use.

In contrast to the picture seen in EM IIA, there are no longer any certain pottery imports from the Mesara to north-central Crete, or for that matter to any other region of the island. This cessation of exports from the Mesara in EM IIB may prove false once domestic assemblages from the region become better known. It is clear, however, that at least some of the tholoi of south-central Crete continued in use, including those at Moni Odiyitria and Lebena; this is in

contrast to the lack of burial evidence for north-central Crete at this time.

Evidence is also scarce for EM IIB in west Crete compared to the preceding EM IIA phase, although settlement clearly continued, based on finds from Chania, the Platyvola cave, and still further west in the Kastelli region. What is clear, however, is the apparent lack of any off-island influences in ceramic terms from either the western Cyclades or the Greek mainland, unlike in EM IIA. But a new settlement was founded to the north at Kastri on Kythera with markedly Minoanizing pottery.[58] The pottery assemblage here is essentially Minoan in style, and not Helladic as it had been previously at nearby Kastraki, so this site was probably established by Cretan settlers. The Minoan settlement on Kythera does, however, appear to be a unique phenomenon in EM IIB; only much later, at the start of the Middle Bronze Age, did Crete resume more regular contact with the Cyclades and mainland Greece.

Moving east from central Crete, significant building remains of EM IIB were found at Malia beneath the later palace. The unusual thickness of the walls and the technique of construction are reminiscent of the large-scale buildings further east at Vasilike and Palaikastro. The size and construction of these buildings, at least in the case of Malia, may suggest a public and ritual function for the site well before the first palace period.[59] South of Malia, burials had ceased in the Krasi tholos, but occupation continued in the upland Lasithi plain.

EM IIB in east Crete, in contrast to the rest of the island, was a period of expansion at a number of key settlements. These include Mochlos and Vasilike in the Mirabello region, on the south coast in the area of Myrtos at Phournou Koriphi and Pyrgos, Petras on Sitieia Bay, and Palaikastro at the east end of the island. The cemetery at Pseira continued in use, and at Mochlos burials carry on from EM IIA in the "house tombs," where objects of gold jewelry from probable EM IIB contexts suggest continued access to eastern sources of this precious metal.[60] A notable find within the Mochlos settlement itself is a remarkable cache of 251 obsidian blade cores, suggesting that the blade knappers at Mochlos had direct access to the obsidian quarries on Melos.[61] At Vasilike an impressive multiroomed and -storied structure was built, terraced into the hilltop overlooking the Isthmus of Ierapetra. It had deep basement storerooms, fine red plastered walls and floors, and a large paved courtyard on the west. Coupled with this is the clear dominance of the Mirabello region in ceramic production at this time, supplying substantial quantities of pottery to the broader region not

only along the north coast but also down the isthmus to the south coast communities such as Myrtos–Phournou Koriphi and Myrtos–Pyrgos.

At Myrtos–Phournou Koriphi, a settlement of five or six small terraced houses sharing common party walls was built on a hilltop overlooking the Libyan Sea, making up a small rural egalitarian community.[62] There is no indication here of any social ranking or of a centralized building, although one of the units contained what appears to be a household and/or community shrine. At least some of the pottery consumed here was produced in the broadly local area, but nearly half now came from the Gulf of Mirabello region rather than the Mesara.[63] Settlement continued on Siteia Bay in the area of Petras, where an expansion in building is marked by houses with fine red clay floors and plastered walls like those found at Vasilike; pottery of this period shows links with both the Mirabello region and central Crete.[64] At the east end of the island at Palaikastro, evidence of occupation comes both from the built tombs I and II and from a number of areas beneath the later Minoan settlement, including Block X.[65] Here were found traces of a large multistory building on a scale at least as large as that at Vasilike. The humbler nature of the dwellings at Myrtos compared to the much larger and by contrast monumental buildings at Malia, Vasilike, and Palaikastro suggests marked differences in social organization between settlements in east Crete at this time.

In general, east Crete took on a more prominent role in EM IIB vis-à-vis its relations with the rest of the island, and may also have become the main conduit for foreign luxury imports through its continued off-island links with the east Aegean. Unlike the rest of the island, however, EM IIB came to an end here with destructions at a number of sites, including Malia, Vasilike, and both Myrtos–Phournou Koriphi and Myrtos–Pyrgos on the southeast coast. The refuge site of Kastri perched high above the coastal plain of Palaikastro had been abandoned in EM II but was reoccupied in EM III. This pattern suggests something other than accidental destruction, but why it should apparently be confined to east Crete is not known – nor whether it might be due to internal or external agents or natural disaster. The end of EM IIB in east Crete may be contemporary with the far more widespread horizon of destructions and/or abandonment of settlements of the Kastri Group phase in the Cyclades (Ch. 3, p. 68) and at least some of the late EH II sites on the mainland, including the House of the Tiles at Lerna (Ch. 2, p. 36).

What radiocarbon dates there are for EM IIB suggest a close to the period at around 2200 BCE, with a similar date range suggested

for the end of the Kastri Group period in the Cyclades.[66] This would make the end of EB II in the Aegean contemporary with a catastrophic climate change and drought, documented throughout the Near East and Egypt, that began around 2200 BCE (Chs. 2, p. 36; 3, p. 69; 4, p. 98; 5, p. 109).[67] It is difficult to believe that the Greek islands and mainland would not also have been affected, possibly with a prolonged period of at least diminished crop yields and consequent social disruption. This drought may have been especially hard on the Cyclades, which even at the best of times are not well watered (Ch. 3, p. 69). It is against this background that we should view the prolonged period of regional isolationism that followed in the EB III south Aegean; at least some of the main Cycladic coastal centers may even have experienced a break in occupation (Ch. 3, pp. 68–9). This might also explain an apparent hiatus in ceramic imports from the Cyclades to Crete in at least the earliest phase(s) of EM III. Whatever the cause(s) of the destructions in east Crete at the end of EM IIB, there were no apparent disruptions in occupation at any of the major Cretan settlements in EM III.

Conclusions and Epilogue

This brief outline of the material culture of EM I to EM IIB Crete makes a number of points about the diverse and continually changing social landscape of the earlier Prepalatial period. The areas of heaviest settlement in EM I were in the Mesara Plain of south-central Crete and on or near the north coast of the center and east of the island. Not coincidentally, these are the areas of most marked cultural change compared to the preceding Final Neolithic, where the greatest evidence for foreign contact and possible settlement is found. In later EM I there is evidence for Cycladic settlement at a number of key points along the north coast of the island. In the Mesara Plain an influx of new settlers of still unknown origin marks the beginning of EM I; among other evidence, their tomb types are new, and their pottery wares have no precedents on Crete. Some of the new technological features in craft production, including metalworking, were probably of Cycladic origin, whereas the monumental built tholos tombs of the Mesara and the technique and shapes of dark-on-light painted pottery may have been introduced from much further afield, possibly Anatolia or the Near East. The indigenous Final Neolithic population(s) also continued, as shown by burnished traditions in ceramic production and continuity of

settlement in many areas. But the beginning of the history of Minoan Crete has as much to do with those foreign population groups that came to the island in EB I as it does with the indigenous Cretans who had to adapt to this period of outside contact.

In contrast to the marked cultural diversity of EM I, the EM IIA period sees stronger interregional links within the island, with widespread movement of goods including pottery, obsidian, and metals. Competitive emulation among emerging elites within and between communities is clear, in both settlement and burial contexts. The built house-tombs of the east vied in size and investment of resources with the tholos tombs of the Mesara and the large cave sites of north-central and western Crete. In all these cases, conspicuous consumption of luxury high-status objects was prominent and largely supplied by the prestige goods and materials brought to the island by Cycladic traders. An international **koine** (common style or language) of prestige symbols can be found throughout the EB II Aegean at this time, from Crete in the south through the Cyclades to the Greek mainland and east to the coast of Anatolia (Chs. 2, pp. 26–30; 3, pp. 63–4). Such regular and high-volume exchanges of raw materials and specialist craft products over considerable distances of open sea would not be seen again until the beginning of the Middle Bronze Age. At the same time, differences in consumption patterns within Crete help to characterize regional population groups and marked biases in terms of off-island contacts: west Crete towards the Greek mainland, central Crete with the Cyclades, and east Crete with the Near East.

Late EB II in the south Aegean saw significant cultural change, with the introduction of an Anatolianizing group of new pottery shapes and associated eating and drinking practices in some regions, and the construction of monumental corridor houses and fortifications on the Helladic mainland and fortified sites in the Cyclades (Chs. 2, pp. 35–6; 3, pp. 55–6). These events elsewhere in the Aegean were contemporary with the late EM IIA through EM IIB periods on Crete. In sharp contrast to EM IIA, prestige offerings of off-island origin are scarce in EM IIB burials, at least in central Crete. Yet prosperity on the island did not diminish; indeed some areas saw marked growth. The significant drop in off-island prestige goods may have been due in part to emerging elites changing their strategy and forums of competitive display from the burial ground to the settlement. The substantial deposits of EM IIB fine-ware drinking and feasting vessels at Knossos point to the continued special function and nature of this site, and the monumental

buildings constructed for the first time at Malia, Vasilike, and Palaikastro suggest a new built focus of public display and ceremony.

Destructions and/or abandonments throughout the south Aegean marked the end of EB II, although the Cretan evidence is more limited than elsewhere. Maybe the island's geographical position made it largely immune to these disruptions to the north. The EB III period that followed in both the Cyclades and the Greek mainland can only be viewed as a cultural setback and retrenchment compared to what had preceded it in the heyday of EB II (Chs. 2, pp. 36–8; 3, pp. 68–70). This would not be the case on Crete, however, whose ensuing history in the later Prepalatial would be quite different (Ch. 5, pp. 109–10).

By the end of EM II on Crete, many of the conditions that previously had been viewed as arising only at the start of the first palatial period in MM were already in place (Ch. 5, pp. 107–8). In terms of social organization, there are clear signs of ranking in both burial and settlement contexts. The concentration of wealth in burial goods and the investment of time and labor in the construction of elite monumental tombs show an emergent social hierarchy as early as EM I. Both Knossos and Phaistos had already taken on much of the symbolic meaning and ceremonial function of cosmological centers well before the first palaces were ever built there. What was different in later Prepalatial times (EM III–MM IA) was the level and intensification of ceremonial practice at centers such as Knossos and Phaistos and the much more proactive role Crete began to play in re-establishing contacts with the wider Aegean world. Although the earliest history of Minoan Crete was fundamentally shaped by foreign settlement and contact, Crete in its turn would take the initiative at the start of the Middle Bronze Age in reaching out to the wider Aegean world. This contact would have a significant bearing on cultural developments in the Aegean over the next half a millennium.

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5: Protopalatial Crete

5a: Formation of the Palaces

Sturt W. Manning

Introduction[1]

The archaeology of prehistoric Crete is dominated by the Minoan "palaces": monumental court-centered building compounds, which first appeared in the early second millennium BCE. By the Neopalatial period of the mid-second millennium BCE, they are found (or predicted) in various sizes and configurations all over the island. Arthur Evans' uncovering of the 1-**hectare** (10,000 sq. m. or about 2.5 acres) palace at Knossos startled the Classical world at the beginning of the twentieth century CE, with both its scale and early date (Fig. 6.1).[2] The grand, pre-Classical civilization that could build such an edifice seemed at least a junior member of the great ancient Near Eastern world of palaces and temples that was revealed to the colonial powers during the nineteenth century CE. Evans's vision of a "priest-king" at the top of a hierarchical theocratic power structure has remained in some form the dominant interpretative paradigm ever since.[3]

Furthermore, the Minoan palace was seen from its creation as the centralized redistributive authority for a wider territory.[4] This was an anachronistic inference from the Late Bronze Age palaces. The decipherment in 1952 of Linear B records recovered from the Late Minoan II–IIIA2 palace of Knossos, and also Pylos and Mycenae in mainland Greece, seemed to show that the Minoan–Mycenaean palaces were the centers of elaborate palace economies like those in the Near East, with goods redistributed through or by rulers and officials at the palaces (Chs. 1, pp. 12–14; 12, pp. 291–2).[5] The Minoan palaces, with their monumentality, public areas, religious features, storage, and evidence

for administration – both sealing systems and writing (Chs. 6; 7) – came to be seen as defining Europe's first state-level civilization.

Not surprisingly, historians and archaeologists sought the origins of Cretan palatial civilization. How and why did palaces appear on Crete in the southern Aegean – and why not elsewhere in the Mediterranean?[6] Answers lie in the critical period just before the first ("Old") palaces; on the traditional view these were built in the Middle Minoan (MM) IB period (below, p. 111). But the building of the "New" palace complexes largely obliterated evidence for the pre- and early palatial periods. The last two decades have achieved a better picture of Prepalatial and early Palatial Knossos and Malia.[7] Aided by work at sites such as Archanes,[8] it is now possible to define in central Crete what can be called EM III (this now includes various material labeled "MM IA" by Evans) and what can be called MM IA, defined classically by the appearance of the polychrome style in pottery.[9]

Our attempts to explain how and why the palaces arose have also been refined. Evans saw Minoan civilization as fundamentally European, evolving gradually with influence from other cultures, primarily Egypt. He thus adopted aspects of a general diffusionist model in forming the European identity.[10] A new generation of scholarship rejected this position in favor of more internal processes. On this view the relatively sudden appearance of monumental palaces in MM IB after a rather modest EM I–II world suggested not gradual evolution but revolution or punctuated equilibrium during EM III–MM IA.[11] The later EM II period thus became a critical takeoff era, as an emerging elite sought, employed, and, in turn, was stimulated by exotic prestige goods and symbols from the eastern Mediterranean.[12] Others have gone even further, arguing that a real and significant break in EM III separated whatever happened in EM I–II from externally driven new influences and dynamics that began in MM IA.[13]

Meanwhile, however, new data and recent scholarship have (inevitably) undermined the standard views of the 1970s–1990s CE. In particular, certain of the MM IB palatial elements of social and economic complexity and integration are now recognized also in Prepalatial Crete (below, pp. 107–10, 118–20; Ch. 4, pp. 98–100). They are not necessarily the building blocks of statelike entities, but rather provided a stable, integrated environment in which a state could then form.[14] Another recent emphasis is on regionalism; not all parts of Crete, let alone the southern Aegean, took the same paths to complexity.[15]

Previous assumptions that the palaces were centers of production and redistribution have also been criticized. For example, kouloures

(large circular stone-lined pits) at the first palaces were interpreted as possible grain stores and led to the idea that the palaces were regional storage depots for redistribution.[16] Recently, however, they have been deemed unsuitable for such a role (below, p. 118).[17] Similarly, the assumption that the distinctive polychrome Kamares pottery of Proto-palatial Knossos (below, p. 122) was manufactured in palace workshops[18] has been negated by petrographic analyses indicating that much of this pottery came from south–central Crete. Such findings suggest that the palaces were not primarily centers of production and redistribution, but centers of consumption.[19] In general, we see a move away from explanations based on functionalist economics toward ones that emphasize political economy and ideology. Another critical new focus comes from survey work, which looks beyond the palaces to provide an urban and regional perspective.[20]

Cretan Prehistory, Neolithic to Early Minoan IIB

The development of Cretan civilization from the Neolithic to EM IIB is clearly laid out in Ch. 4. It may nonetheless be useful here to highlight the developments directly pertaining to the rise of Minoan states. Crete was colonized in one or more deliberate acts. The key center of Knossos remains at present the only known major settlement site on the island through the fifth millennium BCE (so for some three millennia), though other smaller sites likely existed. A significant amount of ceramic material at EN-MN Knossos is nonlocal Cretan, including imports from some 70 km away in eastern Crete, and some is even likely extra-Cretan.[21] There are some indications of increasing social hierarchy from then on, though the site was only about 4 hectares in size.[22] This great antiquity made Knossos a very special place. The site, its gods, and the ancestors centered there will have formed a potent ideological and real-world power resource, and likely also a cosmological center (Ch. 4, p. 83, 99–100).[23] It was already a focal point for feasting ceremonies by EM IIA, when the assemblage of pouring vessels and individual drinking cups show hospitality at work – a standard arena for the negotiation and creation of social position, obligation, and power in many societies. Moreover, the construction of major building(s) at Knossos and the association of these with imports (Ch. 4, pp. 87–8) suggests (as elsewhere in the Aegean, Ch. 2, pp. 28–30) increased social hierarchy, from the factional or kin leaders (Big Men) to the

minor chiefdom level or equivalent.[24] Across Crete, most sites were small, but there are indications of craft specialization and metallurgy from EM I–IIA,[25] and the development of ceramic regionalism and of low-level site hierarchies in several areas indicates the rise of regional social groupings.[26] Similarly, the greater quality or scale of some tomb assemblages, including imports and other value items, shows increased status differentiation within society (Ch. 4, pp. 87–8, 93–4).

During EM IIB, ceremonial drinking and feasting continued to be important at Knossos, and some larger or more complex structures did appear at a few of the larger sites on the island, though contact both between regions and outside the island was curtailed (Ch. 4, pp. 96, 98). These larger centers and their supporting surrounding regions each formed complex social, political, and economic landscapes, in which larger regional-scale integrations could, and perhaps had to, occur. A main focus and articulation of this evolving social dynamic seems to lie in the new courtyard compounds; the earliest examples, especially for the key initial central court formalizations at Knossos and Malia, likely date to EM IIB. Their creation thus marks a decisive change in both practice and civic architecture, as certain groups started to assert control over pre-existing meeting spaces, social history, ritual performance, and subsequent memory. The central compounds they built involved spatial containment, restriction, and even ownership – mirroring contemporary changes as busier landscapes and wider social relations necessarily became more formalized and constrained.[27]

Nonetheless, one should not get carried away: most of the evidence still points to relatively low-level, village-scale society and hierarchy through EM II, with only limited evidence of significant development of political hierarchy.[28] Some administrative systems are evident from seal usage, but pre-EM III systems were evidently less sophisticated than EH II ones on the Greek mainland (Ch. 2, pp. 30, 34–5), and of a relatively low-level and locally relevant nature.[29] Although it has been argued that the emergence of such central administrative authorities in EM II may have formed the origins of the later Protopalatial systems, such administrative complexity need not imply significant political centralization at this time; the evidence indicates a noncentralized and local or regional scope of authority (Ch. 4, p. 100).[30] Crete had thus become emergent, but no more, and this precocious, but not developed, stage may have been critical in the response to problems and crises in the wider region ca. 2200 BCE.

Early Minoan III

Crete does not have the marked and widespread horizon of destruction or abandonment that occurs widely elsewhere at the close of EB II in mainland Greece, in the Cyclades, in Anatolia, and across the Near East (Chs. 2, p. 36; 3, p. 69; 4, p. 98). But there was likely some impact from these changes and a (probably associated) significant short-term climate change episode, which has been linked with a set of major civilization collapses and changes across the greater eastern Mediterranean and Near East region.[31] On present evidence, destructions occurred mainly in east Crete. Some tombs went out of use, likely indicating social changes and perhaps changes or restrictions in burial display and practice. A case can be made for the beginnings of increased nucleation and growth at a few key settlements, but elsewhere clusters of smaller sites continued on good agricultural land – in east Crete in particular, a number of such small sites occupied defensible locations and/or were fortified. Although some hilltop shrines had been used in EM I–II, in EM III–MM IA such peak sanctuaries acquired a new significance and a clear ritual function. Not only were they community-wide ideological centers (one for each territory or community group), but their regional visibility made them focal points for bringing communities together in the late Prepalatial period.[32] The formal first building on Mt. Iuktas may be exactly contemporary with the building of the first palace at Knossos in MM IB, highlighting a close linkage between ideology and palatial power.[33]

There is little direct evidence of external contacts; so far, just one Cycladic import is known from recent excavations at Knossos.[34] Most development processes appear largely internal to the island. The picture of what was happening on Crete (and also in the Aegean) is capable of very different readings. Whereas Watrous calls the period on Crete "an era of isolation and retraction," it can also be argued that EM III in fact saw an upsurge in activity, especially in central Crete, with settlement nucleation (below, pp. 112–18) and perhaps an emerging administrative system.[35] Significant new sites such as Chamalevri were founded, and important evidence of activity and/or increasing complexity comes for example from Poros-Katsambas (deposits), Archanes (settlement deposits and prestige burials – **Tholos** C [a round domed tomb]), and Malia (pottery and architecture). Most notably, following the creation of a central court, perhaps in EM IIB, new construction at Knossos included an extensive terrace wall, which plausibly formed

the foundation for a major building on top of the hill in EM III (in use until an MM IA destruction and subsequent MM IB rebuilding of the Old Palace).[36] EM IIB–III buildings in the northwest area have the same orientation as the later structures, implying a fundamental reorganization. The very first "palaces" at Knossos and Malia might even date to EM III, and certainly some of the Knossos paved road network, focused on the palace and courtyard, existed by EM III.[37] For interpretation, much hinges on whether most things previously dated EM III can instead be pushed into MM IA, as Watrous attempts, or whether some significant elements are in fact EM III.[38]

Middle Minoan IA

MM IA is the key horizon of the Minoans' first direct and significant contact with the east Mediterranean, Egypt, the Near East, and Anatolia.[39] The exciting recent discoveries at the copper-smelting site of Chrysokamino highlight both specialized activity and extra- and interregional connections (below, p. 115; Ch. 9, pp. 212, 214); the EM III east Cretan white-on-dark ware is regarded as contemporary with Knossian MM IA. There is clear evidence of sociopolitical competition both within and between sites and regions. By the end of the period there were advanced societies at key sites – complex chiefdoms or early states,[40] or a complex hierarchical structure with the balance of power shifting among several elements.[41]

A number of important developments characterize these states.[42] The Cretan Hieroglyphic script appears, the first evidence of literacy in Crete (Chs. 1, pp. 11–12; 7, pp. 174–5). Formal peak sanctuaries are established or developed on several hilltops. Competition for identification and status increases, as shown by large seals of new types and in a new material, imported ivory. Settlement spreads across the island, and significant urban developments occur at main centers with nucleation of settlement (the Knossos settlement is estimated at 33 ha in EM III–MM IA and the Phaistos settlement at roughly 27 ha in MM IA[43]). Corporate drinking and feasting ceremonies are further elaborated, both at these centers and as part of funerary ceremonies.[44] New wealthy burials and monumental mortuary structures are also notable, especially the new "royal" burial monument of Chrysolakkos at Malia. The move to single burials, rather than communal burial in **larnakes** (clay coffins) and jars, highlights individual status rather than general kinship structures.[45]

Middle Minoan IB to II

The period is marked by the building or elaboration of the classic "Old Palace" complexes at Knossos, Malia, and Phaistos, and very probably of palatial centers at other sites like Petras (from MM IIA).[46] It is important, however, to note that these structures and their development differed from place to place. At Knossos and Malia, "palatial" court buildings originated in EM III–MM IA and were formalized at the start of MM IB (Figs. 6.1, 6.3). The first courtyard building at Phaistos did not appear until MM IB (Fig. 6.2), whereas the central court there is currently dated somewhere from MM IIA to MM IIB (though a recognized central space in the settlement may have existed from EM I). The architecture of the various "palaces" also varied significantly. For example, several features of the Neopalatial palaces (Ch. 6, pp. 141–2, 146–9; Figs. 6.1–5), such as **orthostats** (upright stone slabs) and façades in **ashlar** masonry (smoothed rectangular cut blocks) and sophisticated upper stories, are anachronistically assumed to be typical of the earliest palaces. Yet in some cases these elements may not have been introduced until MM II. The elite Protopalatial building complexes at Malia, such as Quartier Mu (Fig. 5.1; below, pp. 122, 124), were clearly as much (if not more) a focus for new architectural forms and for the use and deposition of prestige items, as the palace itself. Thus, rather than being already the ruling seats of a dynasty, the palace buildings and spaces appear rather as sanctioned corporate venues created to formalize increasingly large communal ceremonies and events. Over time, elite groups undoubtedly strengthened their control at the palatial centers, and access to the court/palace compounds became more controlled and restricted, creating something nearer to – but not yet just like – the later palace hierarchy.[47]

During the 150 years of the Protopalatial period, a number of approximately state-level **polities** (politically organized societies) existed on Crete. The settlement hierarchies include a monumentalized center and various special-function sites, like ports and peak sanctuaries; large urban centers surrounded the main palaces (56 hectares for Knossos, ca. 60 hectares for Phaistos, and ca. 60 hectares for Malia).[48] Approximate spheres of ideological, economic, and cultural influence or control were created; the evidence includes rural farmsteads, widespread walls and terracing, roads, and watchtowers or forts. Ceramic styles in particular indicate economic, if not necessarily full political control.[49] The roads and watchtowers, monumental buildings, and also ocean-going ships for interregional trade all required major organized labor

forces and resources. Specialist craft workers were clearly differentiated from the rest, making goods to be consumed or controlled by elites. These developments required a sophisticated administrative system, involving **sealings** (lumps of clay impressed by a seal) and forms of writing; in MM II the system was already well evolved (below, p. 124; Ch. 7, pp. 174–5; Fig. 1.3).[50] Other trends begun in the immediately preceding period were also elaborated. Some elite individuals received monumental burials; landscape territories were integrated through ideology, as evidenced by the network of peak sanctuaries; communal feasting and drinking ceremonies continued, associated both with the enclosed palace courtyards and with elaborated built funerary structures; and extensive trade and contact networks were created within Crete (Kamares ware moves from the Mesara to Knossos and Malia; below, p. 121), as well as within the Aegean and across the east Mediterranean region.

Constraints on Explanation

When one considers the building of the first Minoan palaces, an important question is: *who* did it? Even the EM IIB and EM III–MM IA court buildings were coordinated acts, not gradual accretions. Who led the decision to construct the first palaces, and the process of building them? Although the initial impetus could have come from a single person or unique situation, several such individuals must have existed on Crete, because we know of several palaces, as well as shorter-lived entities such as the MM IA–IB fortified complex at Ayia Photia.[51]

The question comes down to why, and how, on Crete the moderately complex societies of Early Bronze 2 level transformed into nascent palace-building societies, just at the time much of the rest of the Aegean and eastern Mediterranean seemed to go into a decline. There is of course no knowable answer given the data to hand, though a revolution or punctuated equilibrium framework seems most likely (above, p. 106). The gradualist "explanation" appears unable to account for the quite rapid and dramatic take-off and transformation represented by the MM IA evidence, and the very different settlement trajectories within Crete.[52] Nor can it explain why such processes occurred on Crete, and not on mainland Greece, where equally or more impressive developments occurred in the mid-third millennium BCE. By the same token, external stimulus alone could not have led to such progress in MM IA. Crete must already have had a strong basis to support such

figure 5.1. Plan of Quartier Mu, Malia. Plan by Martin Schmid. Courtesy of the École Française d'Athènes and Jean-Claude Poursat.

regional-scale processes, key individuals ready to seize opportunities, and a receptive context of emergent elite groups seeking foreign contacts.[53] It can be argued, indeed, that Crete was early and proactive in creating east Mediterranean contacts, and that MM IA was not an entirely new start but shows the results of earlier processes. Four pieces of evidence may be cited to support this view:

1. Several Egyptian objects, probably First Intermediate Period in date, appear in MM IA or slightly later contexts on Crete. The MM IA period therefore likely began in the later twenty-first

century BCE, somewhat *before* the clear mid-twentieth century BCE region-wide takeoff in east Mediterranean trade. Already during the reign of Sesotris I (ca. 1953–1908 BCE[54]), probable Minoan stylistic elements are seen incorporated into Egyptian art (Hepzefa Tomb), implying previous contact.[55]

2. Sarcophagi, an important burial setting from EM II, and especially from EM III–MM IA, as at Tholos C at Archanes, may have an Old Kingdom Egyptian origin, before ca. 2136 BCE.[56] Cretans may thus have developed significant familiarity with Egypt in the later third millennium BCE, *before* MM IA.
3. An EM III sealing from a house near the South Front of the Palace at Knossos belongs to the "Parading Lions Group," showing three lions walking nose-to-tail around a central motif. The imagery is clearly Near Eastern in origin, showing overseas influence in EM III and, depending on its exact use, developing complexity in administrative practice.[57]
4. Several MM IA Hieroglyphic seals from Archanes have a hieroglyph for the Egyptian sistrum, and an example was also found at the site in a contemporary context, indicating prior knowledge and social incorporation of a foreign symbol.[58]

The Ingredients of Explanation

Among a range of often diverging and even contradictory data, nine points stand out as central in any explanatory model of how the palaces began. The first four are factors within Crete itself; the rest concern intersocietal contacts:

1. The major centers where the first palaces emerged were in agriculturally favorable territories capable of regional intensification; the otherwise vibrant later Prepalatial centers of Mochlos and Gournia lacked such substantial or intensifiable agricultural bases.
2. The first palaces annexed the court areas, which were already central to ritual performances and associated drinking and feasting ceremonies. The formalization of the peak sanctuaries occurred in tandem, along with some other extra-settlement ideological places such as the sanctuary at Kamares cave (for Phaistos). Therefore, the first palaces were ideological centers and also offered a secular power base to those invested with control of such ritual practices.

3. The major centers were relatively close to, or strategic to, the coast and routes inland, and thus in a position to engage in maritime contacts, though they do not seem to have been centered on maritime trade (one might contrast the Bay of Mirabello and north Isthmus region).
4. Some elaboration and differentiation in mortuary practices occurred quite widely on Crete in EM II and into the late Prepalatial period.[59] In EM III some tombs went out of use, some had a gap, a few did not – and critically the elite tombs of EM III and MM IA in some places saw further architectural elaboration (structures, paved areas, altars) and held even more and rarer prestige goods, implying increased competition and investment of resources by particular groups. Particularly intriguing is the possibility that some EM II prestige goods were kept in circulation, and even imitated by specialist craftsmen, and only deposited at this later date.[60]
5. The finds at Chrysokamino reveal in eastern Cretan EM III (and so into MM IA at Knossos) the smelting part of a sophisticated Minoan metallurgical organization linked to the external world (Ch. 9, pp. 212, 214). This operation thus had to have begun in EM IIB and III; it was not an overnight product of a new stimulus reaching Crete in MM IA.
6. The final Prepalatial phase saw a sudden rash of eastern Mediterranean and Near Eastern imports and influences on Crete, most found in tombs or burial areas.[61] Some seals show ocean-going ships, undoubtedly derived from Levantine types of the mid-third millennium BCE onward (Ch. 3, p. 68).[62] Elites had thus developed the capital, technologies, and labor resources to acquire prestige goods by building such ships for interregional trade.
7. Unlike the few other Aegean sites with Early Bronze imports from the east such as Palamari, Poliochni, and Troy, Crete likely received several imports (gold, hippopotamus ivory, amethyst, cornelian) from eastern Mediterranean traders rather than through Anatolia.[63] In particular, only Crete so far has shown Egyptian material imports (stone bowls) from the EB II period.
8. The very start of the Middle Bronze Age saw new maritime trade in the Aegean,[64] including some MM IA exports. Crete seems to have been significantly oriented toward the Levant and the Near East, rather than the Aegean. The first known extra-Aegean export from Crete is a central Cretan MM IA

vase found at Lapithos on the north coast of Cyprus, and a Minoan bronze scraper was found at Byblos.[65]

9. On one theory, a probable environmental crisis on Crete in EM III was a critical focusing mechanism, leading to an acute degree of social stratification, especially in the core areas noted above (p. 106). Those who successfully asserted leadership roles in this dynamic context clearly employed foreign, especially Egyptian and Near Eastern knowledge, contacts, and ideology. Near Eastern or Egyptian similarities for, or potential sources of, a number of the elements of Minoan ideology have long been noted.[66] They can now be understood as indicators of the acquired language of symbolism and power employed by various elites on Crete to create state- or polity-level societies.[67]

Articulation: Why Crete?

The first stage of low-level increased complexity in the EM IB-II periods, then, would appear to fall relatively happily within the scope of a move from a purely segmentary society to a simple chiefdom, or other similar "ranked" type of society. In contrast, the developments of the MM IA-IB periods appear to border on those of the early/archaic state, and the formation of Protopalatial Crete has been accorded this stature by some analysts.[68]

The key missing step is to explain how the emergent EM II stage of complexity and competition developed at some sites on Crete, whereas it collapsed in much of the rest of the Aegean. One possible reason is that a prestige goods economy such as that of EM II Crete can become transformed into a more complex sociopolitical entity, rather than collapse from oversupply and inflation, if supply is cut off or sharply reduced. Scarcity of supplies increases their value, and a monopoly becomes possible. This may have occurred on Crete in EM IIB and especially EM III. Competition among the previous collective "elite" groupings can project the society into a new trajectory of social evolution. Those who deliver bold plans for intensifying production (especially agricultural), for example, can create the circumstances for the rapid evolution of chiefly authority, including religious authority.[69] A specific lineage will be established as having the most powerful ancestors, proximity to supernatural forces, and thus the highest standing.[70] Evidence from Crete suggests the quick rise of such elite lineage-ancestor roles at key

centers.[71] Malia may offer an example if the Chrysolakkos complex is indeed a royal tomb.

Though we lack comparable burial data from Knossos and Phaistos, an established order may already have existed at these two ancient centers, so that they were not subject to the active status-building inflationary pressures on newer sites. Further, because much of the population groupings of central Crete and the Mesara likely derived originally from these centers, they were probably ancestral "homes" to their respective wider regions. Such factors perhaps helped the elites at both places through the problems in prestige goods economies after EM II.

The specific setting on Crete may also be central to an explanation. Knossos, Malia, and Phaistos and their regions each provided different agricultural and sociopolitical environments friendly to intensification. The smaller Aegean islands had no such plurality. But Crete as a whole has only a few such areas, in contrast to the mainland regions of the Aegean. The short-term episode of significant climate change (above, p. 109) may have been another key factor, rendering marginal zones even more precarious, and encouraging further focus on the few agriculturally favorable areas of Crete, in particular the regions of Knossos, Malia, and the Mesara. Population growth and thence crowding in these circumscribed settlements and regions would have created both opportunities and challenges for those seeking to lead. In particular, ancient and important ceremonies held at these centers would now assume ever more significance.

Developments in EM III are compatible with such scenarios. New monumental building at Knossos and Malia, and the beginnings of rapid settlement expansion, clearly reflect population growth at a few locations, as well as economic intensification. It is important to note the timing: the first court buildings pre-dated or coincided with urbanization, as did the peak sanctuaries; they were not its products. Changes in funerary behavior (more restricted deposition of prestige goods, and only in selected contexts) seem consistent with the fact that as such items became rarer and more valuable they were not so often destroyed or removed from circulation (above, p. 115). Some of the Cycladicizing Koumasa figurines (Ch. 4, pp. 90, 93) might also date to this later Prepalatial period, after direct EM IIA contacts with the Cyclades had waned. Their conservation might point to increasing monopolization of the now very scarce "heirloom" Early Cycladic II originals, or to intensified elite competition for these rare items.[72]

MM IA and Protopalatial Crete in turn abound with evidence for external and exotic linkages, from imported objects, to influences, to architectural forms. Interestingly, most such indications of conspicuous consumption and status competition are associated not directly with the palaces, but with either the residential areas or the tombs of elite groups, both near the palaces and elsewhere on Crete. We should perhaps infer not a single hierarchy with a ruler at the top, but rather an array of several competing groups, each using the social and ideological venue of the palaces and their surrounds. Such a set of interaction spheres or peer polities might best explain the rapid development of several largely similar polities on Crete.

But this assumption may also be mistaken. The conspicuous consumption might have been of a limited kind, set within a relatively stable but growing urban and regional context and contrasted with the increasing monumentalization applied to the palaces in MM IB.[73] The building of the kouloures (large circular stone-lined pits) in early MM IB at Knossos may be important. Although now questioned as grain stores for a redistributive model (above, pp. 106–7), these large structures in the West Court and the Theatral Area of Knossos, and also at Phaistos (MM II), may have been for ceremonial offerings made as part of entering the palace area; the location appears to rule against a primarily mundane purpose (Figs. 6.1, 6.2).[74] If so, the ideological power encapsulated within the palace compound and articulated via the palace authorities controlled the mobilization of agricultural products. Perhaps only *within* this palace-centered framework could second-tier elites display conspicuous consumption and competition. Whether the leader was a king or an ideological group, the absence of specific ruler iconography (below, pp. 119–20) may then reflect an already ancient and established order in which there was no need to affirm legitimacy.

The Character of Protopalatial States

Even at the end of the Protopalatial period, several points suggest that central control was relatively limited: the small scale of storage, the lack of palace sealings in the wider regions (and no other clear command–control structures), the strictly limited and small-scale nature of the craft areas, and the apparent independence of building complexes (both near the palaces, such as Houses A and B at Malia, and further away). Thus Minoan states of this period were relatively decentralized, and as

in many early states, religious ideology may have been the one main unifying focus for the greater territories.[75] Most crucially, there is a pressing lack of evidence in either the Protopalatial or the Neopalatial period for a king based in any of the palaces;[76] what limited iconography one might point to is mainly LM IB or later. The Egyptian symbolism on one commonly used seal at Phaistos has led to the suggestion that Minoans had a similar kingly station,[77] but without significant other data this evidence seems wholly inadequate. The absence of male ruler imagery from Crete has been explained by the occurrences of goddesses in Minoan art, who were considered as complementary figures to a male king and legitimized his power.[78] It is at least equally plausible, though, that the real secular authority figure was in fact not the depicted goddess herself, but her human representative. Though their relevance to this period cannot be demonstrated, it is notable that the LM III Linear B tablets from the palace at Knossos refer to a divine Lady/Mistress of the Labyrinth (Ch. 13, p. 352).[79] She may be an ancient resident from Knossos' long past; in a later seal noted by Evans the goddess is also linked with a mountain peak (Iuktas, the palace's peak sanctuary?), and appears from there to give authority to a male figure (king?) in the world below (at Knossos?).[80] The palaces themselves lack any obvious architectural focus toward a throne room or audience chamber. Instead their focus was the ancient central courtyard and the ceremonies that took place there (in view of Iuktas).[81]

The palace complexes may, however, comprise some hierarchy within them: from the (extensive) public west courts with their walkways defining progression from outside to inside, to the more controlled and elaborated central court arenas, to the highly exclusive dining halls with cult paraphernalia (Figs. 6.1–6.5). The kitchens, archives, some limited storage – not on a regional scale – limited workrooms, and some probable residential areas all supported such elite palace functions. The small group of senior figures who met in the hall may be assumed to have been the effective leaders of the society. They likely controlled its dominant locale and its ceremonies, and also its regular articulations with the peak sanctuaries, sacred caves, and other key ideological foci of the society. The members could manipulate practices to reflect and structure present concerns – providing a real power mechanism. There may have been a formal leader position (perhaps religiously empowered as chief priest of the goddess or the like), or different individuals may have exerted more or less influence at different times.[82] These leaders might have represented an elite priestly caste, major family or kin groups in the society, or secular factions.

The much later Greek myths and traditions may be relevant on one key point.[83] They weave together the idea of the first king of Crete, Minos, as a child of the great god Zeus, with power cyclically renewed through meetings with Zeus, and mention sacred caves and mountain peaks (including the Grave of Zeus on Mount Iuktas). Thus, despite the problems and lack of specificity involved in such testimonies, and the general absence of the goddess in post-Bronze Age material, mythic tradition is consistent with the archaeological observations of a society that appears ideologically centered, with regular ceremonies connecting peak, cave, and palace, and where power could be built by integrating and formalizing these ceremonies, and the processions to and from them, into a coherent ideological framework.

5B: The Material Culture

Carl Knappett

Introduction

As one moves through a Cretan museum, with its galleries arranged chronologically, the material culture of the Protopalatial bursts onto the scene. This is not to say the preceding room did not contain some striking Prepalatial artifacts; or that stunning finds displayed in the following Neopalatial halls will not also fire the imagination; but arguably the material culture from the Protopalatial period has the most profound aesthetic impact. Kamares ware pottery in particular, with its white and red painted designs set against a lustrous black ground, somehow presents a more vibrant and varied overall impression than what comes before or after (Fig. 9.2; Pl. 8.9). Other periods may offer more stunning individual pieces, but in terms of the overall "assemblage," the Protopalatial can make a strong claim to primacy.

There are attendant dangers to this kind of sweeping characterization. Material from different parts of Crete may be arranged side by side, and may in fact derive from different phases (MM IB, MM IIA, MM IIB) in the 150-year span of the period. It is important to take these temporal and regional variations seriously; as we shall see, the end of the Protopalatial period does not much resemble its beginning.

This approach has not often been taken, though, in part because it is difficult to isolate each phase securely. For example, we do not have much of an idea what the palace at Knossos looked like in MM IB, IIA, and IIB, respectively. In the east of the island, the MM IIA phase has barely been differentiated at all. The weight of evidence is concentrated in the destruction horizons at the end of the period. A more significant obstacle is the abiding focus on the origins of Protopalatial Crete, to the detriment of a proper understanding of its actual character and internal development. "Character" is sometimes reduced to defining

certain features as either endogenous or exogenous, within the context of arguments over secondary state formation (above, pp. 112–13). In marshalling their arguments to explain the origins of Protopalatial Crete, scholars may inadvertently misappropriate evidence from the end of the period. When the Protopalatial is treated as a uniform entity, this problem is barely even recognized.

So what sets the Protopalatial period apart? The answer lies in the distinctiveness of its material culture, but a focus on artifacts risks being dehumanizing. Archaeologists have therefore tried to look through or past the artifacts to "the people behind them." Yet, these objects are not merely ciphers or emblems of human activity. We need to give much more attention to the agency of artifacts, and indeed of artifact assemblages (Ch. 1, p. 2). Can they perhaps take on a life of their own, entangling humans and pushing them along new, previously unrecognized paths? We must see material culture as fully involved in the life of Protopalatial Crete, not just standing for or representing it.

Networks of Artifacts

One of the most characteristic features of the period is this entanglement of material culture in complex webs cross-cutting many media and contexts. We see an explosion in the range and diversity of artifacts, an impression gained in the museum visit described above (p. 127). Take ceramics, for example, the most abundant artifact class of all. Knossos, Malia, and Phaistos, the three main centers in this period, with their monumental palaces (Fig. 6.4) and large towns, have yielded an astonishing array of pottery types. Kamares ware is so variable that no two vases are ever quite the same in shape and decoration.[84] One of the largest assemblages of Protopalatial pottery (not all "Kamares," of course) comes from the single destruction horizon of Quartier Mu at Malia, a large building complex of two adjoining town houses, Bâtiments A and B, along with five separate workshop buildings, covering in total ca. 2,000 sq. m (Fig. 5.1).[85] The pottery consists of almost 200 ceramic types in use together, among which there are roughly 40 different types of cup and goblet alone. It is not just a matter of pottery shape and decoration, either; with the advent of wheel-fashioning, we can observe a wide range of technological strategies, as some potters embrace the new technique for some forms and not for others, whereas some "laggards" seem much less keen to adapt to new technological

possibilities.[86] The trajectory of wheel innovation through the course of the Protopalatial period is remarkably slow and gradual, such that by the end of MM IIB most drinking and pouring vessels tended to be wheelmade, but larger vases such as amphorae remained coil-built. Not until the Neopalatial period were vessels of amphora size (typically 40 cm. high) wheelmade, and only by the end of LM I, some 300–400 years after the initial adoption of the wheel technique, was almost all pottery wheelmade. Thus the range of techniques in Protopalatial pottery contrasts both with handmade Prepalatial pottery and with the increasingly wheelmade assemblage of the Neopalatial period.

Skeuomorphism

Of course, pottery is not a self-contained field in terms of either production or consumption. The Minoans worked on and used other materials. Some connections between pottery and other media – for example, metal and stone, and basketry and textiles – must have existed in the Prepalatial period. But it was in the Protopalatial that these interconnections really intensified. One might go so far as to say that *skeuomorphism* (the aping in one material of a form commonly made in another) was the new trick of the trade for Minoan artisans.[87] Ceramics imitated metal vessels in shape and decoration, with thin walls, strap handles, "rivets" at the join between handle and rim, lustrous black slips, embossing, impressing, and crinkly rims. Some of these connections are assumed rather than demonstrated, as metal vessels are not at all common. The Tôd treasure is one notable exception, but some doubt remains as to its provenance.[88] More secure is a crinkly-rimmed silver kantharos from a house tomb at Gournia, with a remarkably close parallel in clay at Malia.[89]

Stone patterns or effects such as breccia were also aped in pottery decoration.[90] Textile motifs were probably copied also, as in the so-called "Woven style" seen at Knossos in the early part of the Protopalatial, although it is of course difficult to be certain, because textiles do not survive.[91] Even basketry was directly imitated, albeit very occasionally, with the use of basket moulds to imprint the woven designs directly on the clay.[92] Quartier Mu has also produced some small basket-shaped vessels – cups with squashed rims and upturned handles (Pl. 5.1); larger examples are also known from Phaistos.[93] Some stone vases, such

as carinated bowls, have presumably metallicizing shapes.[94] On some pots, one even finds two media being imitated in one: a metallicizing shape bearing a stoneware decoration.

And the interconnections continue. Some motifs used in the decoration of pottery find parallels in the designs on sealstones.[95] Yet the crossover between these media is not thoroughgoing; whereas figurative scenes are rare on Protopalatial pottery, in pictorial seals of this period "almost every creature of the land, sea and sky seems to be represented."[96] Goats and **agrimia** (Cretan wild goats) feature prominently, and we also see bulls, lions, octopods, cuttlefish, dolphins, owls, spiders, monkeys, griffins, and sphinxes, among others. Some sealstones also bear Cretan Hieroglyphic signs, thus creating links with another sphere of material culture: administrative documents such as clay tablets and nodules and roundels, these last usually seal-impressed (Chs. 1, p. 12; 7, pp. 173–5; Fig. 1.3). These clay objects could be incised or impressed in one of two early scripts first found during the Protopalatial period: Linear A and Cretan Hieroglyphic. As the latter name suggests, these undeciphered scripts do appear pictographic in nature, although most individual signs are in all likelihood syllabic.[97] Clay documents and sealstones are related not only iconographically, but also functionally: sealstones were used to make impressions in certain kinds of clay documents; sometimes they directly sealed commodities in storerooms (direct object sealings), or acted as tokens of authority in administrative contexts.[98]

Evidently, consumers inhabited a complex world of reference and cross-reference. For producers, a rich set of interconnections also existed; single artisans may have been multiskilled in different media, or different artisans, of varying skill, may have worked side by side. Both of these scenarios are represented in the "maisons-ateliers" of Quartier Mu (Fig. 5.1): some workshops seemingly specialized in particular crafts (for example, the potter's workshop, the sealstone workshop), and others engaged in more than one craft (such as the Atelier Sud).[99] The sealstone worker at Quartier Mu specialized in the working of seals in steatite, a soft stone that had also been worked in earlier periods, despite the proximity to the potter's workshop, in which wheels were discovered. The innovation of the potter's wheel may be linked to the development of fast rotary tools, which were first used in the Protopalatial period to make seals of semiprecious hard stones.[100] However, this connection seems not to have been made in the workshops of Quartier Mu.

The Micro-Scale: Individual Lives

At this *micro-scale* level, then, multiple connections between many different kinds of artifact formed a web of material culture within which an individual might very well have been enmeshed on a daily basis. But not all individuals would have been equally exposed to all kinds of material culture. Few individuals could have been familiar with writing systems, or with the images on semiprecious sealstones. And given that Crete has no sources of silver, tin, or copper, should we not expect metal vessels to have been highly valuable and hence severely restricted in their distribution? Three bronze cauldrons were found buried beneath the floors of Quartier Mu, possibly in an attempt to hide valuables in the face of some imminent threat.[101] The building was indeed burnt down and never reoccupied, although it is hard to say how long after the burial of the cauldrons the destruction took place.

Bearing in mind, therefore, the likelihood that different artifact types had very different values, we need to acknowledge that hierarchies of material culture probably existed. These different regimes of value may have been more or less conspicuous from one social setting to another. One striking example is a large deposit of pottery from Knossos,[102] whose contents form a pyramidal structure: a single fine eggshell ware goblet at the top, then ten or so relatively fine polychrome goblets, twenty less fine goblets with rudimentary decoration, and then nearly forty very roughly made goblets (Pl. 5.2). The same kind of hierarchy applies to other types from the deposit (which contains 200 vases in all), such as straight-sided cups and bridge-spouted jars. The hierarchy is thus rather open and conspicuous, connected presumably with a particular kind of conspicuous consumption, "patron-role" feasting.[103] In this mode of feasting the palatial elite sets itself up in the role of patron, and participants are not expected to reciprocate the hospitality that is offered. Although this kind of consumption serves to create community ties, it simultaneously underscores social differences. Patron-role feasts may very well have evolved from an earlier form, which we might label "empowering feasts"; these situations, in which reciprocity is expected, and which may therefore be more competitive, may have occurred in the Prepalatial period (above, pp. 107–8; Ch. 4, pp. 87–8, 95).[104] As already emphasized, however, we must resist the temptation to consider the Prepalatial and Protopalatial as undifferentiated blocks of time. The deposit discussed here belongs to MM IB, the beginning of the Protopalatial period, but the situation may well have changed through the

course of the period. Did the palace become less public later in this period, or only in the Neopalatial?

This kind of evidence has implications for how we understand individual lives. At Knossos, all inhabitants may have known about all kinds of material culture, even if they did not get to use them; indeed, certain kinds of artifacts may actually have been conspicuously inaccessible, consumed by elites within the view of nonelites, as suggested by the cup hierarchy described above, with its single fine eggshell ware goblet. People living in villages, however, or on farmsteads in the agricultural hinterlands would surely not have been exposed to the same web of material culture as those in the palatial towns. This consideration reminds us to treat not only the portable material culture discussed above, but also those forms of artifact that are fixed: architectural features, and indeed the settlement layout as a whole, with its structures of roads and drains. Palatial towns differed radically from smaller sites, not least in the monumentality of the buildings, the use of large finely cut blocks (albeit not yet true ashlar) and orthostats (a Protopalatial innovation), and materials such as gypsum. One might also imagine that the internal fabric might have varied, such as the ways that interior walls were treated: walls were clearly plastered and painted frequently, but we have little evidence for figurative wall paintings from either palatial or nonpalatial sites. It is interesting to note the contrast with the following Neopalatial period, when even many of the smaller "peripheral" sites often called "villas" do show a lot of architectural similarities to the larger palatial centers (Ch. 6, pp. 143–6, 149–50).[105]

The Meso-Scale: Comparing Communities

In making such inter-site comparisons, we are shifting our analysis from the micro-scale to the *meso-scale*. Similarities and differences in the material culture from site to site appear to signify important social and political patterns in the ways communities interacted. Some of the patterns are peculiar to the Protopalatial period. Ceramic regionalism in particular is very striking; MM II pottery at Malia was very different from that at Knossos, despite (or because of?) the fact that both were palatial towns, just 45 km apart. Pottery from the Mesara and the far east of the island was different again. Yet strong connections can be observed within each region: the site of Monastiraki in the Amari valley shows close ties to the palatial site of Phaistos in the Mesara, whereas Myrtos–Pyrgos, a village site on the coast south of the Lasithi plateau, displays

strong links with Malia.[106] As well as sharing ceramic styles, perhaps an indication of a shared ideology and even political affiliation, such sites were also connected by the movement and exchange of pottery, often storage vessels presumably containing agricultural products. For instance, at Malia one sees many imports from the Bay of Mirabello (Pl. 5.3), the south coast (from the region west of Myrtos), and the Mesara.[107] Mirabello imports seem particularly prolific in this period, with a number now recognized at Palaikastro in the far east of the island. Last, it is not just pottery that can tell us about site interactions. The two scripts known from this period, Cretan Hieroglyphic and Linear A, are strongly regional in their distribution, with the former found in the north and east, at Malia and Petras in particular, and the latter predominantly in the Mesara (Ch. 7, pp. 174–5).[108]

Despite these distinct regional patterns, though, there are some significant commonalities, not least the construction of palaces along similar lines at the three known centers of Knossos, Phaistos, and Malia (Fig. 6.4). These similarities have been attributed to a process of "peer polity interaction."[109] They point to a shared "Minoan-ness," but at the same time regional differences, much more pronounced than in the succeeding Neopalatial period, hint at complex processes of social differentiation, possibly at the regional level between competing "state" polities (above, pp. 111–12).

The major palatial sites constitute a natural focus, and have done so since the earliest excavations on the island at the beginning of the twentieth century CE. The explosion of intensive survey in recent decades has meant that many other kinds of site have also been identified. It is now clear that some areas of the landscape were intensively occupied during the Protopalatial period, more densely indeed than in any other time in the Bronze Age.[110] Survey work has identified watchtowers in the far east of the island during MM I–II and defensible sites in the Lasithi region. Katalimata, a highly inaccessible site in the Cha gorge, has now been excavated; first occupied in the FN period, it was subsequently inhabited during MM IIB.[111] If we are to understand the material culture of the Protopalatial period, then we need to consider the nature of these more isolated communities, however small, and their possible interactions with the larger, mostly coastal, settlements.

But not all sites are communities as such; a number of nonhabitation sites were devoted to cult, in particular peak sanctuaries and caves. The Kamares cave is a notable example, where Kamares pottery (above, p. 127) was first recognized on Crete in the late nineteenth century CE. This cave, at a height of approximately 1,600 m above the

Mesara plain and the palace of Phaistos, was perhaps a place of pilgrimage, intermittently visited (and presumably inaccessible in winter). Peak sanctuaries such as Iuktas and Petsophas also saw considerable use during the Protopalatial period. We must not overlook either the sanctuary of Kato Syme: high up on the south slopes of the Lasithi plateau, and apparently in constant use until the Roman period, it was first established in MM II.[112] These sites tend to have special kinds of material culture, such as figurines, which are uncommon in settlements. Moreover, it seems unlikely that all segments of Minoan society could possibly have visited these isolated places, many of which are still difficult of access today. If the very young and the very old, for example, were not included, then we must consider the variable "reach" of certain classes of material culture.

The Macro-Scale: Beyond Crete

The inhabitants of Crete did not restrict themselves to the island in their interactions. Various parts of the southern Aegean show evidence for contact with Crete during the Protopalatial period, from Kythera in the west to Rhodes and the coast of Asia Minor in the east and Egypt to the south (Ch. 9, pp. 214–16). Here we shift scale again, from the meso to the macro level. Traveling from west to east across the southern Aegean, we see quite different patterns of interaction. On Kythera the community at Kastri looks Cretan in its material culture during MM IB–II;[113] although the pottery is indistinguishable from that of most Cretan sites, there is no clear connection to any particular region of Crete. The deeply Cretan character of the material culture may be attributable in part to the long history of interaction between Crete and Kythera, which stretches back to the Prepalatial period, commonly thought to represent an early colonization of the island from Crete.[114] To the east, the island of Thera in the Cyclades shows a very different kind of interaction with Crete. At the site of Akrotiri, ca. 1%–2% of the pottery is imported from Crete (compared with ca. 10% in some Neopalatial phases), but the relevant Middle Cycladic levels (phase B) exhibit very few signs of Cretan influence (Ch. 8, p. 190).[115] At Miletos on the coast of Asia Minor we encounter yet another scenario. Here too Minoan imports dating to MM IB–II are found in the levels of Miletos III, in roughly the same proportions as at Akrotiri.[116] However, Minoan influence apparently had a greater impact on local practices than at Akrotiri, as suggested by some locally made cooking pots that

draw upon Cretan prototypes, and even a potter's wheel of Cretan type.[117] This contact presages a much fuller set of links during the Neopalatial period, going beyond Miletos to other sites on this stretch of coast (Chs. 8, pp. 198–9; 9, pp. 216–18). We might also consider the nature of the evidence for Cretan Protopalatial contact on Rhodes, Melos, Keos, Aegina and the Greek mainland (Ch. 8, pp. 193–8), and indeed the very limited evidence for imports from these various areas on Crete itself. With the exception of Kythera, however, and perhaps Miletos to some extent, the Protopalatial seems to be distinct from the Prepalatial in that there is plenty of evidence for interaction across the southern Aegean, and yet quite different from the Neopalatial in that this interaction involves very little acculturation.

Conclusions

In summary, the Protopalatial period sees the emergence of new artifacts, new sites, and new landscapes and seascapes; profound changes take place across many scales. Yet one could say the same about many a transitional period. What distinguishes the Protopalatial in particular is a new diversity, interconnectedness, and hierarchy in material culture, linking individuals to one another in novel ways and creating distinctive communities of practice, across different scales.[118] The material culture does not simply reflect more fundamental social change; it acts as a kind of ratchet for social dynamics, and is part and parcel of them. We should be careful, however, not to depict MM IB as the beginning of a simple upward trajectory to MM IIB in evolutionary terms. There are considerable discontinuities, such as the apparent contraction in occupation at Galatas in the MM II period,[119] and a reduction in imports from the nearby site of Kastelli to centers such as Knossos. In some instances, major developments only occurred midway through the period, such as the construction of the Quartier Mu complex at Malia, or the early palatial building at Petras;[120] strong links between Petras and Malia apparently existed only in MM IIB. At Palaikastro it appears that even as "late" as MM IIB the settlement pattern changed significantly, at least in Area 6/Block M, whereas at nearby Zakros the evidence from the MM settlement is not at present sufficiently clear to differentiate between different phases within MM I and II.[121] Some forms of evidence cannot even tell us what changes might have occurred through the period; biases of preservation mean that for glyptic and administrative documents we really only know the situation

in MM IIB. Indeed, we must acknowledge that some of the apparent discontinuities are attributable to the numerous destructions, whether wrought by earthquakes or human agency, that punctuate and "freeze-frame" the archaeological record of Crete.

What does seem clear is that in the following ceramic phase, MM IIIA, here assigned to the Neopalatial period, significant changes took place from the micro to the macro scale (Ch. 6). At the micro level, one very important change was the innovation of the conical cup, a plain handleless bowl that was "mass-produced" and had a wide range of uses. Alongside all the very fine "artworks" that are produced during the Neopalatial, it is the plain conical cup that is nevertheless one of the most emblematic artifacts of the period. At the meso scale, sites changed in appearance, with major rebuilding at the palatial centers, and villas (aping palatial styles) now dotting the landscape (although this shift may actually have taken off in the succeeding MM IIIB phase). The macro-scale too saw a whole new phenomenon: sites across the island evidently followed Knossian styles, and the process of acculturation known as Minoanization affected much of the southern Aegean (Ch. 8). These developments across a range of scales really do seem to mark a new beginning after the destructions that affected many Cretan sites at the end of MM IIB.

Suggestions for Further Reading

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Notes

1 I thank Nicoletta Momigliano and David Wilson for kindly reading and commenting on a draft of this paper. Ilse Schoep generously showed me her 2006 *AJA* article (below, n. 7) before publication. I especially thank Cynthia Shelmerdine for her patience, and for her very thorough and beneficial editing.

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6: The Material Culture of Neopalatial Crete

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General Outline of the Period

The Neopalatial (or New Palace) period followed the fire destructions at the end of the Protopalatial period (MM II) and continued until the fire destructions at the end of LM IB, which destroyed almost all administrative sites in Crete (the central palace building at Knossos was spared) and changed Minoan culture. The period is conventionally divided into a short MM III period, which is difficult to characterize, and a long LM IA period and LM IB that together may have been the highpoint of the Minoan civilization.[1]

Early in the Neopalatial period the Minoans extended their cultural and administrative influence beyond Crete. By LM IA we see their presence in the Cyclades (especially Thera, Keos, and Melos; Ch. 8, pp. 189–97), in other islands such as Kythera and the northern Aegean island Samothrace, and on the west coast of Anatolia (Miletos; Chs. 8, pp. 198–200; 9, p. 217). Besides being long and rich, LM IA also saw the eruption of the Thera volcano late in the period (Ch. 1, p. 6). Theran pumice has been found at many Cretan sites, where sometimes it had been carefully collected and stored, and several sites were wrecked by earthquake and either remodeled (Petras east of Siteia) or abandoned (the farm complex at Vathypetro).[2] Other sites were simply abandoned, such as Galatas in the Pediada plain southeast of Knossos. More material dates to LM IB, simply because the fire destructions that closed the period were nearly total and apparently sudden; although no people were burned to death in the buildings, they left behind just about everything except their personal jewelry. We thus have a rich assortment of objects from the end of the period. Many art forms did

not survive the Neopalatial period, and the period that follows was so different in character that there was probably a significant change in culture. Mycenaeans from the mainland may have been responsible, or they may have taken advantage of an existing situation on Crete (Ch. 12, pp. 310–16).[3]

Sites and Architecture

After the fires that destroyed many, if not most, of the Protopalatial settlements and palaces at the end of MM II, Neopalatial Crete experienced a burst of rebuilding and, we presume, reorganization. Much of the architecture took one of two major forms, a complex of buildings around a central court (the "palace") or a square single unit (the "house"). There were, of course, variations on these forms, especially the "villa," which was an imposing house, usually in the countryside, with secondary buildings, or even a village around it.

The old Protopalatial palaces at Knossos, Phaistos, and Malia were enlarged, given new and grander façades and West Courts, and outfitted with more spacious rooms (Figs. 6.1–6.4). Aside from their imposing new look, the main improvements included larger storage facilities, the more formal rooms with built benches (for counselors?), and **lustral basins** (below, p. 148; small sunken rooms of unknown function). New palaces were also designed where earlier there had been either none or some other type of building altogether: Zakros at the extreme eastern end of the island (Fig. 6.5), Ayia Triada in the Mesara (west of Phaistos, at the opposite end of the same ridge), and the smaller palaces at Galatas southeast of Knossos and at Petras on the north coast, just east of the modern city of Siteia. The term "palace" usually conveys royal images of kings and queens and courtiers, places where declarations and judgments are made and where audiences are held. It is possible to conjure up these images at Knossos, in a room with a stone throne flanked by stone benches. The other palaces contained rooms with benches but not thrones. Neopalatial palaces did have in common storage magazines, usually in the west wing, and a large central court.

Crete in the Neopalatial period was also surprisingly urbanized. Knossos, the palace and town, was the largest urban center, approximately a fifth of a square mile in extent, with a population of about 17,000 – a moderately sized modern town. Along the north coast, from modern Chania to Siteia, there would have been a string of palaces: presumably Chania and Rethymnon, where important buildings have been

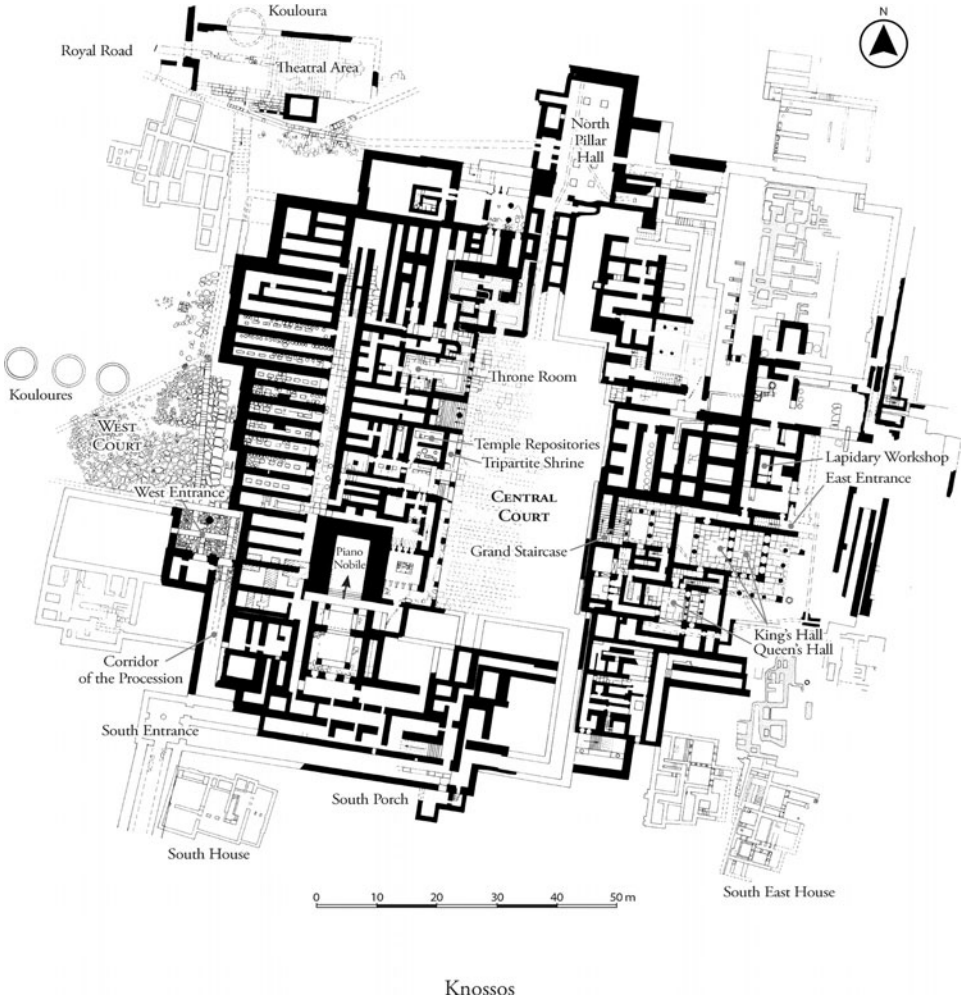

figure 6.1. Plan of Knossos palace. Plan by Dan Davis.

excavated, and then Knossos, Malia, Gournia, and Petras, all approximately 25–40 miles apart. Some traces of roads have been discovered, sometimes with watchtowers, and a whole string of small settlements, "villas," and farms. Ships would also have made this journey, traveling along the north coast of the island from west to east, following the prevailing currents. Along the south coast ships traveled east to west, which explains the necessity of a palace at Zakros for ships coming from Cyprus that did not enter the Aegean. Continuing their journey from there, ships could then stop at Makriyialos, the "villa" site of

figure 6.2. Plan of Phaistos palace. Plan by Dan Davis.

Pyrgos, and finally at Kommos, where Building T has the look of a palace. Farther to the west on the south coast there were few Minoan sites, and the mountainous and inhospitable southwest corner of Crete was virtually uninhabited. How ships traversed past this part of Crete is unknown. Perhaps they turned southwest toward Libya and thence toward Italy, or perhaps some of their goods were unloaded at Kommos and shipped north to Phaistos and across Crete to Knossos, as happened in Roman times when Gortyn, just to the east of Phaistos, was the capital of the province of "Crete and Cyrene" (in Libya).

Throughout much of Crete, apart from the palaces, were many small towns, villages, "villas," and country houses or farms. Some of the small towns were located around the palaces, such as that on the hills that hem in the palace at Zakros; other towns seem not to have had a palace, such as the cluster of "villas" at Tylissos in the plain west

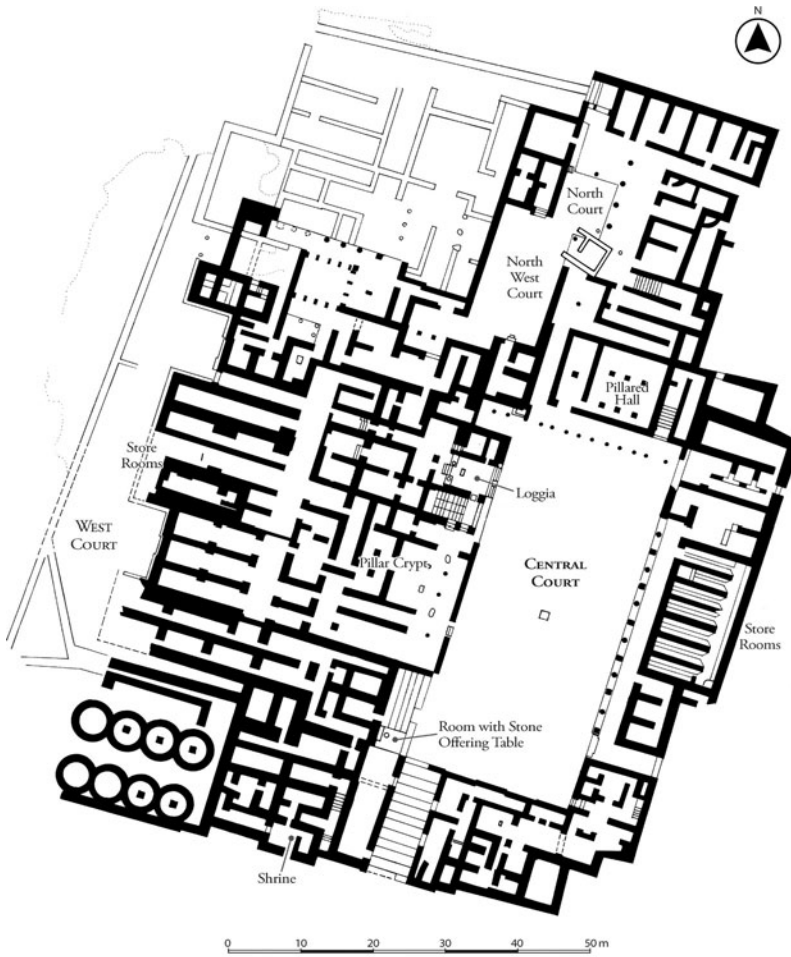

figure 6.3. Plan of Malia palace. Plan by Dan Davis.

of Knossos and the spacious town by the sea at Palaikastro just north of Zakros. Gournia was a village of small (6–8 rooms) two-story houses, often sharing party walls; a small palace crowned the site. Gournia is the only site on Crete that has been completely excavated.[4] Although the functions of most rooms cannot be determined, portable braziers indicate cooking and latrines were usually located below the stairs that led up to the second story. A network of alleys and stepped streets encircling the hill gave access to the houses.

figure 6.4 Plans of Minoan palaces, at 1:2,000. Plans by Dan Davis.

Substantial buildings apparently not within towns have also been excavated. Most of these were farms, such as Kannia in the western Mesara, Zou up the river valley from Petras, and Ano Zakros on the plateau above Zakros. Zou had its own pottery kiln and Kannia and Ano Zakros had impressive storage magazines; one **pithos** (large storage jar) at Ano Zakros carries an inscription that starts with "WINE 32," apparently stating its contents as 32 Minoan liquid units of wine (Ch. 7, p. 178). Vathypetro, at the south end of Mt. Iuktas and overlooking the Lykastos valley, consists of a large complex of buildings containing a shrine, a wine and olive press, and other industrial features. It is more

difficult to identify the function of other isolated buildings. Makriyialos looks in plan like a small palace, but probably was only one story; beyond the façade of its central court it becomes insubstantial. Sklavokampos, above Tylissos on the main route to the sacred cave on Mt. Ida, looks like a typical farm: tucked into a corner of a moderate-sized plain, it had a nice front porch, a small storage area, and a large room apparently for farm animals. Upstairs were more rooms and below the stairs the latrine. A group of clay **sealings** (lumps of clay impressed by a seal; Fig. 1.3), fired to pottery hardness by the destruction of the building at the end of the Neopalatial period, was found inside the front door, presumably the contents of a chest that had fallen from the balcony above. These sealings had secured tightly folded parchment documents and were impressed by the gold finger rings of administrators, probably at Knossos (Pl. 6.1; Pl. 7.6; Ch. 1, p. 12; 7, p. 175)[5].

Most of the buildings conventionally called "villas" were large and nicely appointed two-story houses; a cluster of these could create an impressive neighborhood, such as the houses at Amnisos (including the Villa of the Lilies) and Nirou Chani on the coast east of Knossos, or they could form the focus of a small community, such as Nerokourou near Chania, or the "Country House" at Pyrgos on the south coast. Near most of these impressive houses were smaller structures, presumably service buildings.

For more detailed discussion of the two main building types we shall visit the palace of Phaistos and the house at Nirou Chani, mentioning conventional rooms, masonry styles, and building practices as we go.

Phaistos lies on a plateau at the east end of a long ridge in the middle of the west end of the Mesara plain; its vistas are inspiring, east into the hazy grain fields of the Mesara and north to the double-horned peak of Mt. Ida (Pl. 6.2). The palace (Fig. 6.2) is large (about 120 m square or the size of two football fields side by side), but only about half as large as Knossos (Fig. 6.4). It is approached from the upper West Court and a staircase that descends into the lower West Court, renewed from the Protopalatial period, past a monumental set of stone bleachers that must have held a large audience for ceremonies that took place on the stone paving (Pl. 6.3). A broad stone staircase leads up to a tall porch supported by a huge wooden column resting on a column base made of gypsum.[6] As we know from artistic representations, Minoan columns tapered from top to bottom, and their round capitals were somewhat like classical Doric column capitals with a crowning square (abacus) that supported the lintel above it. Beyond the column is a shallow antechamber whose massive back wall, made of large rectangular **ashlar**

figure 6.5 Plan of Zakros palace. Plan by Dan Davis.

cut blocks of a local creamy limestone called poros, is pierced by three doors. The stair, the porch, the column, and the massive wall beyond make a very imposing ensemble.

Beyond the antechamber, though, the grandiose entrance to the palace fizzles out. Behind the imposing massive back wall is a broader room supported by three narrower columns (implying a lower ceiling); immediately to one's left a narrow staircase ascends to rooms above, and off in the far back right corner another narrow staircase leads both up to similar rooms and down to the central court and the storage magazines. These magazines lie adjacent to the grand entrance and are themselves impressive. The masonry is again poros ashlar and the layout is remarkably regular: a long corridor supported by a poros ashlar pillar

leads to eight narrow storage rooms, four along each side. Here were stored grain, olive oil, wine, and other commodities in large pithoi that stood as tall as the Minoans themselves.

The central court is large (Pl. 6.2), about 27 m wide by 63 long (80 by 188 feet, or a little more than half the size of a United States football field); it is oriented almost due north and is open to the sky, and to the vista of Mt. Ida high above the two-story buildings that surround the court. The long sides (the southeast corner has collapsed into the plain below) are fronted by a line of pillars behind which is a shallow corridor for people to gather out of the sun and rain; it must have supported a similarly shallow balcony above.

In the southern part of the west wing is a complex suite of small rooms that may have functioned as storage space, as administrative offices, or as private rooms for the inhabitants. In the center of this suite is a lustral basin (Pl. 6.4): a small room just inside of which is a narrow platform that overlooks a sunken basin. This basin is reached by a short flight of stairs that descends in a few steps, turns a corner, and descends again to the floor. What these basins were used for, we do not really know. They have no drains or outlets of any sort, so they cannot have been baths or basins in the modern sense. They are usually lined with gypsum slabs, but one at Chania is painted to look like stone and another at Zakros has a painted band of **horns of consecration** (a symbol shaped like abstract bull horns). This decoration is common, but real horns of consecration in stone also exist, usually lining the tops of buildings – perhaps they referred to the double horn shape of Mt. Ida or perhaps they derived from the Egyptian hieroglyph for the horizon. Lustral basins are found in both palaces and houses and both in Crete and at the heavily Minoanized site of Akrotiri on Thera (Ch. 8, p. 192), but not on the Greek mainland. The decoration of the Thera example (Ch. 7) suggests that the basin was used by women. Whatever its function, the lustral basin was peculiar to Neopalatial Minoan society, and disappeared with its fall.

In the middle of the north end of the central court at Phaistos an opening in the wall leads to the northern two-story suite of rooms. Here there are two smaller open courtyards, a simple court on the ground floor and a court above ringed by columns. One of the rooms in this suite contains a long bench made of gypsum slabs (Pl. 6.5); such rooms are common elsewhere. Two of the rooms are **polythyra**, with several pier and door partitions instead of continuous walls (Pl. 6.6). Polythyra are also common, but all that remains of any of them is the I- or L-shaped gypsum bases for the door jambs. Here at Phaistos there

are two sets of three doorways that run across the width of each room, one behind the other. Because the gypsum bases are narrow, the door jambs (presumably wooden) could not have been very substantial, and because there is no evidence for real doors, we probably should imagine curtains that could be drawn aside or let hang depending on the weather and heat of the day. At the back of these rooms is another lustral basin and a **light well**, a room whose roof is open to the sky to let light and air down to lower stories. Because here at Phaistos and elsewhere the buildings had at least two stories, we can imagine balconies in the upper stories overlooking the light wells. Most light wells are handsome, lined with gypsum slabs or made of poros ashlar blocks; they have drains and must have been pleasant places to work next to, out of the sun but airy and amply lit (enough for pots of flowers such as the lilies we see in frescoes).[7]

At Nirou Chani is a freestanding house in what was probably a small seaside town on the north coast east of Herakleion (Pl. 6.7). Next to the house is a storage building with three magazines containing pithoi and one room that contains cribs for dried food and fodder for the animals. The main entrance is off a spacious court into a porch with two columns that leads directly into a polythyron with a single set of four doorways. Off the polythyron, one passage leads into more private quarters and another runs straight back to a small bench room looking onto a light well. Two more corridors, one lit by a window from the light well, lead to storage rooms. Behind the bench room a square storage room without windows contained a mass of plaster "offering tables" (short, small tables on three short legs, presumably for placing small items such as cups of olives). The private quarters consist of a suite of four rooms: a small light well with slate paving and a window to the outside, another bench room next to the light well, a storage area, and a bath with a drain and a waterproof floor of pebbles set in a plaster mortar. At the end of a corridor from the private quarters is another closet, containing large bronze double axes, and a staircase up to the second story. We can imagine that the plan of the second story followed the plan of the first closely, but with a balcony above the entrance porch. Because the private suite on the ground floor juts out from the otherwise square plan, another balcony above the bench room would have looked onto the light well. The walls of the house are built of several different materials: poros ashlar around the light wells, rough-hewn limestone stones for the exterior wall facing the large court, and baked mud brick in timber frames for the upper story walls.

Masonry consisting of rough-hewn stones is common; where the stones are large, over a meter in diameter, they look like later Mycenaean Cyclopean walls (Ch. 11, p. 262), and many of them serve the same purpose, to support terraces on which sit other structures. Several of the houses at Zakros are built into the slope of the hills, with massive megalithic terrace walls to support them.

Minoan States

Crete is divided by three massive mountain ranges into five major regions (Ch. 4, pp. 77–8). We would expect each of these zones to have had at least one major Minoan center (a palace) and several towns, each in turn the major center of its own subregion. In addition, because the isthmus in the center of the island provides a major transportation route north–south linking the Aegean with the Libyan Sea, we expect Knossos on the north side and Phaistos on the south to have emerged as important centers for the entire island. By LM IA, however, Phaistos seems to have diminished in importance: no administrative documents come from Late Minoan contexts there, and there is little evidence for occupation in LM IB.[8] The administration of the Mesara must have been left to Ayia Triada just to the west of Phaistos, and the central administration of the island (in whatever form that took) to Knossos.

The secondary regions of Crete are easy to discern; each primary region contains several small valleys ringed by low hills, each about the size of a United States county, and in each of these we would expect a secondary urban center. The smaller villages, farms, and rural complexes would then have constituted tertiary centers that lay close to the borders between primary regions. Thus Minoans traveling from Knossos to Phaistos might have started out from the primary center of Knossos and headed south to a secondary center such as Archanes at the foot of Mt. Iuktas, bypassing the tertiary farm complex at Vathypetro. From here they would have descended into another major region, the bowl of the Lykastos valley, first bypassing some of its farms and villages before entering the secondary center of Lykastos itself. Continuing the journey into the Mesara, they would first have passed through the towns and farms of Lykastos and then, entering the Mesara, its farms and secondary villages and towns, finally reaching the primary center of Phaistos or Ayia Triada.

Of course the picture is not as simple as theory and generalities make it seem. We know most, archaeologically, about central and east

Crete; we have not yet found a palace west of Knossos. And east of Malia the major centers, Gournia and Petras on the north coast and Pyrgos on the south, are all rather small – was Malia a primary center that had control over these eastern settlements? Zakros seems isolated and the surveys in the surrounding region have not come across any settlement larger than a farm – was there no secondary town in the southeast region? In fact, from what we actually know, the three-center model for early states works only for central Crete, where, for instance, we can see the farm at Sklavokampos up on the slopes of Mt. Ida as dependent on the town at Tylissos in the plain below, which was itself dependent on Knossos. It is possible that the state of Malia worked slightly differently. Because the Lasithi plateau directly south is too high (ca. 3,000 ft above sea level) to be agriculturally productive year-round, its summer inhabitants probably came down into the coastal plains in winter. Thus, although the Lasithi plain does not appear to be geographically part of the northern coastal strip dominated by Malia, it probably was administered by Malia because of the seasonal movements of its population – and sealstones produced by the Protopalatial workshop in Malia's Quartier Mu (below, p. 159; Ch. 5, p. 124) have been found in abundance in the Lasithi plain.

Several archaeological aspects seem to confirm this model for an early state: a three-tier hierarchy of sites per major region, including Knossos as both the primary center for the central northern plain and the island's supraregional center. The excavated Minoan farms, towns, and smaller palaces seem to recreate the micro-regions that the Venetians and Turks recognized in early modern times; and, to support Knossos as a supraregional island center, prestige and display objects that can only have been produced at Knossos were disseminated across the island. It is important to keep in mind that these Knossian objects may have been produced for ceremonial purposes, because they often take ceremonial form (such as the gold finger rings with religious scenes and impractical animal-headed pouring vessels and funnels known as **rhyta** [ceremonial vessels]) and depict ritual scenes (bull-leaping, men at peak sanctuaries, and elaborately dressed women; below, p. 158; 7, p. 166).

Some Neopalatial administrative documents (Ch. 7, pp. 175–7) also mention places that we can identify with more or less certainty. *PA-I-TO* (Phaistos) appears on at least two tablets from Ayia Triada; Sybrita (*SU-KI-RI-TA*) in the Amari valley west of Mt. Ida appears on one of the few Phaistos tablets, and its adjectival form appears on a tablet from Ayia Triada. TU-RU-SA on a libation table from the mountain

peak sanctuary of Kophinas near the south central coast and *A-TU-RI-SI-TI* inscribed on a tall vase found at Knossos both probably refer to the agricultural town of Tylissos west of Knossos. The place name *SE-TO-I-JA* occurs on an inscribed libation table from Prassa near Knossos and on some twenty Mycenaean documents from Knossos – perhaps this was the Minoan name for the peak sanctuary on Mt. Iuktas. Finally, *KU-NI-SU* appears four times on three tablets from Ayia Triada; it was once thought to reflect a Semitic word for wheat,[9] but the way it is used on the tablets makes it certainly a place-name, and it is tempting to see in it "Knossos."[10]

The major question concerns the nature of Knossos's superior status in the administration of the island. Did it actually conduct the affairs of the other palaces, appointing, say, the head administrators there and receiving their taxes? Or were the other palaces more or less autonomous, all working within a shared cultural system that assumed harmony? We have no detailed answers for these questions, but the huge size of Knossos (the palace is almost twice as big as Phaistos), its continuity (no LM IB destruction within the palace), and the stylistic quality of prestige and display goods that emanated from Knossos across the island all point to its cultural supremacy, especially in religious and social matters. It would make little sense if this cultural and religious supremacy did not also entail economic and political strengths.

Pottery

Neopalatial pottery provides important information about the containers used in all aspects of daily life and even after death, as well as giving us economic information about inter-site and international trade and contacts. Because it is almost indestructible, even fragmentary pottery forms the basis for creating a chronology, in the absence of absolute dating criteria (Ch. 1, pp. 3–7). This said, pottery is not a dominant craft in artistic terms, but tends to follow developments in other media. In contrast to later Greek pottery, Neopalatial artisans seldom represented the human figure on their wares; instead, such experimentation was confined to wall painting and engraved gemstones used to impress administrative clay sealings.

Following the light-on-dark polychrome style and exuberant Kamares ware designs that characterized the Protopalatial period (Ch. 5, pp. 121–3; Fig. 9.2; Pl. 8.9), the shift to a dark-on-light style for the Neopalatial period seems startling. The transitional pottery of

MM III sometimes included both styles, so we can see how the work of the pot painters was evolving in the creation of finely produced and fired wares in an increasing range and variety of shapes. One of the distinctive transitional styles was the so-called tortoise-shell ripple, which disappeared by the end of LM IA. The plant style, which continued longer, made use of motifs from the world of nature, especially reeds, grasses, and flowers, which could be painted fairly quickly.[11]

Special Palatial Tradition pottery is a relatively small class of pottery produced by the palaces, but it includes unusual shapes and elaborate decoration; these are the vases often reproduced in books, but they represent rare and extraordinary pieces, not pieces for daily use. Some of these have been found at other sites in the eastern Mediterranean, and their style was imitated and adapted elsewhere in the Greek mainland and the Aegean islands, particularly in locations with strong contacts with Crete. The floral style continued the traditions of the plant style that preceded it, but the marine style of LM IB introduced motifs connected with the sea: octopuses, **argonauts** (marine mollusks with spiral shells), and dolphins, and seaweed, coral, and abstract patterns, some of which suggest ripples of water.[12] These motifs are often highly detailed, and appear to move as if floating across the surface of the vessel. (Some subjects such as the octopus continued on pottery to the end of the Bronze Age, but they gradually became stiffer and less naturalistic).[13] An exceptionally fine marine style ewer in the Herakleion Museum combines painted marine themes with terracotta shells in relief (Pl. 6.8). Coexisting with these were an abstract/geometric style, with elements more formally organized into registers across the surface of the pot, including garlands of flowers or chains of beads, and the Alternating style, with individual motifs repeated around the surface of the vase: figure-eight shields and stylized elements of landscape, or double axes alternating with clumps of flowers or individual blossoms of individual flowers.

Many of the special palatial tradition motifs existed earlier in wall painting; the potters seemed to borrow freely from the other medium, and to be following developments that took place there. One basket-shaped vase with double axes, for example, imitates the shape of a wickerwork container (Ch. 5, p. 129). In addition, the find spots of some of these special pieces have suggested that they were intended mainly for ritual use, to be carried in processions or for pouring liquid offerings.[14]

Although we tend to focus primarily on painted pottery, two unpainted shapes deserve mention. The small conical cup was

manufactured in vast numbers and is found at most Cretan sites – this was the Dixie cup of the Bronze Age. Made to a standard size (about 4 oz.), it served as the common drinking cup, but was adaptable to other uses: to hold small amounts of food or religious offerings, filled with oil and given a wick to serve as a lamp, and used as a handy container for odds and ends. By contrast, storage pithoi of coarse clay could be very large and heavy – in some cases, as tall as a person. Many of these were probably made on site and fired there, because of their size and weight. Occasionally they are painted with trickle decoration, or their surfaces have clay additions in the shape of medallions or strands of clay resembling the ropes that might have been tied around the pithos in order to move it or secure it in place. These pots could be used to store large quantities of dry goods (grains, legumes, textiles) or liquids such as oil, water, or wine. Similarly plain are some other specialized types of pottery containers, such as the vats for pressing wine or olives for olive oil.

Scientific analysis has revealed that in general, Minoan pottery shapes and motifs were imitated, but that the vases themselves did not travel abroad. Marine style vases found outside Crete, for example, were often locally produced, not imports.

Other Crafts and Foreign Influences

The Neopalatial period marks a unique high point in Aegean craft production: it often surpassed the achievements that came before it, and after it many crafts began to decline until the very end of the Bronze Age. During no other period in Aegean prehistory were so many materials and techniques simultaneously in use, or at such a high level of skill. Nevertheless, the practitioners of these crafts are anonymous, though individual workshops have been identified at a number of sites. The modern tendency to identify various types of workers as artists was probably meaningless in antiquity: a craftsman or craftswoman was simply a person who had mastered certain skills.

Virtually all Neopalatial arts and crafts on Crete originated in the Protopalatial period and continue to evolve, a good indication that the change from Proto- to Neopalatial did not involve a major cultural break despite the rise to a new level of technical competence (Ch. 5, pp. 154–5). Pottery has already been mentioned, but terracotta was also used for architectural models of houses and shrines, some of which include human figures. Clay figures of women, men, animals, and even

body parts were deposited at peak sanctuaries, apparently as votive dedications.

No ancient civilization could exist without metals and the technologies for working them. Bronze, an alloy of approximately 90% copper (from Cyprus) and 10% tin (origin unknown; Ch. 9, pp. 215–16), was used for tools, weapons, and vessels of many shapes. Gold and silver could be used in jewelry and for objects such as double axes, which therefore probably had a cultic, not a practical function. Sometimes objects employed several metals, particularly specialized containers and decorated weapons.

Vessels of sheet bronze have been found in MM II contexts at Malia (Ch. 5, p. 125), but during the Neopalatial era such vessels expanded in variety and size: tripod cauldrons (some of immense size), shallow bowls, and ewers for containing and pouring liquids. Many of these were utilitarian in nature, and could be used for heating water and preparing food, but some vessels have decorated surfaces and rims, and in frescoes they are usually carried in procession by men. Some metal vessels, like their clay counterparts, were occasionally produced in sets, which could be stored in palaces and villas, and even deposited in tombs as part of the funerary equipment for distinguished individuals.

Minoan Type A swords have a grip that is riveted to the blade; the design is therefore not suitable for slashing but rather is good for thrusting and stabbing. These swords were the best produced in the Aegean, and ancestral to those that developed later.[15] Although some of these Type A swords were used on Crete, many were deposited in the shaft graves at Mycenae (Ch. 11, pp. 260–61). It would be interesting to know more about how the mainland élites acquired them; suggestions include spoils of war taken from vanquished opponents, armaments for retainers, or acquisitions made by mainland visitors to Crete.[16] Armorers were responsible for two kinds of shields, the "tower" and the "figure-eight," both made of bull's hide stretched over a supporting wooden or wicker framework: these are represented in art, though no actual examples survive.[17]

A score of bronze daggers survive that were inlaid in various colors of metal with figures or entire scenes in the **niello** technique. This craft of applying silver and gold figures to bronze daggers with an adhesive of copper, silver, and lead sulfides was probably borrowed from Syria and apparently mastered on Crete, though almost all the surviving examples have been found in mainland tombs (Ch. 11, pp. 259–61; Pl. 11.1). The most famous of these shows a line of warriors with shields fighting lions on one side, and lions attacking deer on the

other, forming a visual narrative that resembles the combat similes in Homer half a millennium later.[18]

Vessels of precious metal could be "raised" by hammering thin sheets of gold or silver, metals that are quite malleable. Some of these shapes are enlivened by patterns (occasionally matched in pottery) or are even decorated with figural scenes in the repoussé technique. A pair of gold cups with scenes of bull-capture and bull-leaping from Vapheio, as well as the silver "Siege Rhyton" from Mycenae, were found on the mainland, but were probably produced by Cretan artists (Ch. 11, pp. 260–61). Because Crete is poor in these metals, the raw materials had to be imported: silver from Laurion near Athens (Ch. 8, pp. 200–201), and gold perhaps from central Europe but more likely from Egypt (Ch. 9, pp. 213, 216).[19]

Because of the continuous building and rebuilding at many sites, there must have been considerable demand for architectural craftsmen to supervise the quarrying, transport, and finishing of blocks of stone. These included large ashlar blocks of creamy poros limestone, various colored limestones (red, blue, and green were favorites), and gypsum at a few sites such as Knossos and Phaistos. Gypsum flagstones for pavements could be cut or trimmed to shape and grouted with plain or painted plaster; more precisely cut pieces were used for thresholds, column bases, stair-steps, benches, and wall veneer. The obvious Minoan love of architectural polychromy was enhanced by the painting of some plastered stone walls with panels or friezes in the fresco technique (painting on wet plaster) or imitation stone dadoes with painted patterns that suggest multicolored marble. In most cases, tools seem to have been simple: saws, chisels, drills, and abrasives. Traces of lightly incised guidelines on blocks suggest the oversight of a trained architect, or work from actual architectural plans.

The decoration of interior walls and ceilings was a specialized craft practiced by fresco painters, many of whom seem to have worked primarily at Knossos.[20] The technique depended on a careful preparation of wall surfaces (in several layers), control of the damp lime plaster in sections where colors would be applied in a single, short painting session, and the use of string lines, straight-edges, or preliminary sketches as guidelines for the final composition. Neopalatial painting included both miniature and large scale scenes, with a fairly limited number of subjects: scenes of nature with detailed renderings of plants and animals, the architecture of palaces, peak sanctuaries, and townscapes, bull-leaping, repeating decorative patterns, and processions of women or men – only in a few extraordinary scenes are both sexes

shown together. The introduction of human subjects was an innovation of the Neopalatial period, as was fresco painting itself, though it had long been known in other cultures like that of Egypt. Another new feature was relief frescoes, where human and animal figures are built up in plaster against a flat background and then painted. This technique may reflect developments in other crafts such as relief carving of stone vases and intaglio for sealstones, where the design is cut into the surface of the seal, but appears in relief when the stone is pressed into clay or wax.

In the paintings, there is a constant tension between naturalism (for example, in depictions of plants and animals) and established conventions: white skin for women, red skin for men; the use of red, blue, or yellow backgrounds, often arranged in undulating bands; and combinations of horizontal and aerial perspective. Most paintings of this period have survived only in scraps, but the recently revealed frescoes from Akrotiri on Thera – many of which are painted in a Minoan style – are helping to fill the gaps in our evidence.[21]

A surprise in recent years is the discovery of scraps of painted plaster at the site of Tell el-Dab'a (the ancient Hyksos capital of Avaris) in the northeast delta of Egypt.[22] Among the surviving pieces are human figures, naturalistic landscape elements, and scenes of bull-leaping. Because these scenes do not copy Minoan frescoes in exact detail, they may imply simple influence from Crete; such wall-paintings could have been practiced by itinerant artists, including those from outside the Aegean. Though the precise date of Dab'a within the Neopalatial period is still controversial (sometime within the sixteenth century BCE, however),[23] the spread of Minoan motifs abroad is confirmed by the iconography and style of paintings at other sites: Miletos on the Anatolian coast, Alalakh in Syria, and Tel Kabri in Israel.[24]

A series of tomb paintings at Egyptian Thebes, of the early Eighteenth Dynasty, show processions of male Aegean natives ("Keftiu") bearing gifts to Pharaoh (Ch. 9, p. 219).[25] Some of their offerings, including a variety of metal vessels, are so close to Aegean shapes that direct contact between the cultures in this instance seems virtually certain. In addition, the men wear Aegean costume and footgear, which differ from those in Egypt, and they have long hair like some of the men represented in Neopalatial art on Crete. But the Keftiu also appear with Syrian tributaries, suggesting a complex system of multicultural exchanges among the populations of the eastern Mediterranean.

Stone vase manufacture, already a venerable tradition on Crete (Ch. 4, p. 93), expanded its repertory with a range of new and specialized

shapes: large drinking cups or chalices, and cone-shaped or animal-headed (lionesses and bulls) rhyta (below). Colored stone was used for small mace heads, which were probably mounted on wooden shafts as emblems of power or authority. Stone offering tables and shallow ladles, some inscribed, were dedicated at peak sanctuaries, sometimes as miniature votive offerings. A number of stone vessels found on Crete are likely to be imports from Egypt, occasionally modified when they reached the Aegean.[26]

A special class of stone vessels in black steatite or green chlorite, some with traces of gilding, were carved with scenes in low relief that mirror the themes in palatial frescoes and on seals: male combats, bull-leaping, the architecture of palaces and peak sanctuaries, and marine motifs – but no women.[27] Most of these relief vases take the shape of rhyta. The well-known "Boxer Rhyton," a conical rhyton from Ayia Triada, depicts four horizontal zones with boxers and bull-leapers; fragments of other conical rhyta come from Knossos with scenes of men apparently at peak sanctuaries. Another rhyton, in the shape of an ostrich egg, also comes from Ayia Triada; it carries a frieze of male agricultural workers marching and singing (Ch. 7, pp. 178–9, 181). Because of shared iconography and techniques, stone carvers and seal engravers must have worked closely together during this period. One puzzle is how these stone relief vessels functioned; most do not have pouring spouts, but they do have small holes either in the mouths of the animal-headed rhyta or in the bottoms of the funnel rhyta. They are too cumbersome to have been used to refill drinks but they could have been used as an exotic way to add liquid flavorings to drinks. At Zakros there are so many of these stone funnels, and in pairs made out of the same stone, that we think they were not used for some exclusive religious ritual such as pouring libations, but rather in banquets. Few of these relief stone vessels have been found intact; most are represented by a single fragment. Pieces of the "Sanctuary Rhyton" from Zakros (Ch. 7, pp. 167, 180; Pl. 7.1) were found scattered throughout the west wing of the palace. Such fragmentation may have been the result of deliberate destruction for ritual purposes, or vandalization in the upheavals at the end of the Neopalatial period. Large-scale relief work in stone is notably absent from the Aegean, however, except for the well-known Lion Gate Relief at Mycenae, whose sculptural technique and iconography follow Minoan practices (Ch. 11, p. 269).

Some stones for architectural relief, vessels, seals, and jewelry were imported from outside Crete and attest to extensive trade networks or the diplomatic exchanges that characterized political diplomacy in

Egypt and the Near East during the second millennium BCE (Ch. 14, p. 362). From the Greek mainland these include red and green marble from the southern Peloponnese, green, black, and white-speckled *lapis lacedaemonius* from Sparta, and obsidian from Yiali, an island off the southwest coast of Anatolia. Blue lapis lazuli came from a single known source in Afghanistan and amethyst from Egypt, whereas black hematite, blood-red cornelian, and rock crystal may have derived from several different sources, including Mesopotamia.

Seals of various hard and soft stones were produced for administrative purposes and could also be worn as jewelry on necklaces and bracelets. The Pre- and Protopalatial seals are of soft stones and dentines (bone and imported ivory, both hippopotamus and elephant); they come in a wide variety of shapes including monkeys and recumbent animals; and the motifs generally consist of abstract patterns, with occasional lions and other animals. A Protopalatial workshop located in Malia's Quartier Mu produced steatite prisms, many with all three faces engraved and some carrying Hieroglyphic inscriptions (Ch. 5, p. 124; Fig. 5.1).[28] Just before the end of the Protopalatial period, the Malia Workshop began to carve harder stones, and from this period on hard stones such as brown and black banded agate, red cornelian, and blue amethyst were the preferred materials for seals. Beginning with the Neopalatial period, seal shapes were standardized: most seals are quite small (diameter ca. 1.5–2 cm) and are usually biconvex in section with faces that are circular (lentoids), almond-shaped (amygdaloids), or rectangular (cushions). Cylinder seals, common in the Near East, are rare.

Finger rings of gold (Pl. 6.1), silver, bronze, or a combination of metals were employed by top administrators, some of whom may have held religious office as well. The hoops are generally too small to permit wearing on the fingers. Where seals and finger rings are found in intact tombs, they usually lie next to the left wrist as if worn on a bracelet, or on the chest as if suspended from a necklace. Neopalatial seals hardly ever show the abstract patterns that were common earlier; instead, they feature animal studies (recumbent bulls, cows nursing their calves, and the Cretan wild goat, the **agrimi**) and the human figure in action. The gold finger rings carry special scenes such as bull-leaping (Ch. 7, pp. 180–81) and religious ceremonies; a religious scene repeated on several finger rings features a nude youth hugging a large boulder, a dancing woman in the center, and a youth or young woman tugging at a tree growing from rocks or in an enclosure (Pl. 6.1; Ch. 11, p. 279). The precise meaning of this scene is unknown, but such activities may have been intended to invoke a god's epiphany.[29]

Several other materials and techniques came to Crete from the eastern Mediterranean: elephant and hippopotamus ivory, glass, and faience, an opaque quartz-glazed compound that could be colored and molded into various shapes before firing (Ch. 9, pp. 216, 219). Faience was used for the production of small vessels, inlays, plaques, and jewelry, and for female figurines such as the well-known large and small "Snake Handlers" found in the Knossos palace. Only two of these are usually illustrated, but the skirts of three survive, along with other body parts. Ivory was suitable for carved plaques, cosmetic vessels, mirror handles, small figurines, or larger group compositions such as the figures of bull-leapers from the Knossos palace.[30] A tall male youth (height ca. 60 cm) from Palaikastro (Pls. 6.9, 6.10) has recently been restored from scattered sections of hippopotamus ivory for the body, wood for nipples, gold foil for his costume, rock crystal for the eyes, and carved dark steatite for his hair.[31] This tendency to combine a variety of materials for color contrast is a hallmark of the period.

There is abundant evidence for architectural woodworking in the form of horizontal and vertical beams, cross-ties in rubble walls, roofing systems, staircases, and cupboards. (Crete was probably better forested in antiquity than it is today.) Sealstones and wall paintings also provide indirect evidence for the construction of wooden ships. By contrast, Neopalatial furniture manufacture has remained an elusive craft. The stone throne in the Knossos palace has a contoured seat and curved supports that suggest skilled joinery, confirmed by the plaster cast of a disintegrated wooden table from Akrotiri on Thera. The Poros–Herakleion tombs, however, have provided new evidence on Crete itself for beds, litters, and biers; some were designed for burials, but others may have been used during life. A few have plastered surfaces and were painted.

One craft that is only now receiving proper attention is the production of high-quality textiles for international export. Though textiles have not usually survived in the archaeological record, we know them through their depictions, primarily in fresco.[32] The spindle whorls and loom weights discovered at many sites are important evidence of cloth manufacture (Ch. 11, pp. 276–7). Before modern mechanization, the labor involved in producing cloth from start to finish consumed vast amounts of the available time of many individuals, apparently mostly women, from childhood through old age. The Minoans wove wool and linen cloth on the warp-weighted loom and dyed raw wool, spun thread, and cloth using a variety of natural agents, including murex shells for the deep red/purple that was famous in all periods of antiquity.[33]

A strong yellow color was produced from the stigmas of saffron crocus flowers, shown being collected by women in several wall paintings – and by leashed monkeys.[34] Because of its use in food and medicine, as well as cloth production, the harvesting of crocus may have been exclusively a women's activity. Red, blue, and white were the main colors used for dyeing textiles, and throughout the Neopalatial period, elite women in art (and so presumably in life) wear more elaborate costumes than men as a sign of their importance. Specialized patterns could also be produced through techniques such as tapestry weaving or embroidery.

A discussion of cloth necessarily brings us to issues of costume. Though no actual garments have survived, it is possible to reconstruct the cut and decoration of many costumes from depictions in the frescoes.[35] Because wall paintings often show special scenes, it is difficult to determine what ordinary people wore on a day-to-day basis. Men generally wore a breechcloth secured at the waist as an undergarment or simple clothing for strenuous activities, to which a stiffened codpiece (leather or metal?) could be added to protect the genitalia in combat or bull-leaping. Over this was worn a kilt and, depending on the weather, a variety of cloaks or mantles, with pointed leather sandals laced up the ankles, boots, and sometimes leggings. Women wore a short-sleeved robe (like the modern bathrobe) open at the front to reveal the breasts, at least on special occasions. As a rule this robe was ankle-length for adult women and calf-length for prepubescent girls, but both might wear a wrap-around apron, often flounced, fringed, or heavily patterned, that was secured at the waist with ties. Often women wore a thick belt or girdle around the waist, a cloak or mantle, and a kerchief or hat over the hair. Perhaps surprisingly, these formally dressed women are always depicted barefoot, perhaps to convey the impression that elite women did not work in the fields.

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7: Minoan Culture: Religion, Burial Customs, and Administration

John G. Younger and † Paul Rehak

Religion and Cult Practice

In the modern world, Western societies tend to separate religion and ritual from other aspects of society in a way that ancient or "primitive" societies did not. In ancient cultures religion was an integral part of daily life, including the treatment of the deceased after death. For a heavily agrarian society, cult practice centered on daily and seasonal activities and on human involvement with a perceived supernatural world. Although it is difficult to reconstruct belief systems without documentary evidence (below, pp. 173–82), the archaeological record preserves much evidence for ritual equipment and activities. What makes Minoan society interesting, as well as difficult for us to understand, is the apparent overlap between religion, society, and politics. Some of these issues have been addressed in detail,[1] but no consensus has emerged among scholars – an impossibility, perhaps, in any discussion of religion!

We assume that the foundations of Neopalatial religion were laid in the Protopalatial period, and probably much earlier, in the form of cults at caves (some at quite remote locations), at sanctuaries on mountain peaks throughout the island where offerings were made of terracotta human and animal figures, and at communal tombs, often deliberately situated to provide easy access from the homes of the living (Ch. 4, p. 93). At the time of the first palaces, there is evidence for the existence of small shrines outside the palaces, and for the adoption of certain symbols such as the **horns of consecration** (shaped like abstract bull horns; Ch. 6, p. 148) and short stone blocks ("altars") with incurved

sides. The palaces, moreover, may have promoted some official or public cults alongside personal or private belief systems for individuals (Ch. 5, p. 114). What is noteworthy, however, is that Crete lacks evidence for the large formal temples that are such a common feature of contemporary cultures such as those of Egypt and Mesopotamia, and the evidence for depictions of divinities in the form of cult statues is ambiguous at best.

With society's increasing focus on the major palaces and administrative centers at the beginning of the Neopalatial period, control of public religion and cult practice may have become increasingly dominated by the palatial elite, especially at Knossos. Although the number of peak sanctuaries on the island actually declined overall, activities at a few select sanctuaries (such as Mt. Iuktas near Knossos) became more intense, and the offerings richer and more varied. The connection between palace and peak should be emphasized because it is a feature that clearly distinguishes Crete from other ancient societies. One regular form of cult activity, perhaps with social overtones, was the periodic visit or pilgrimage to these peak sanctuaries, where food and drink was consumed and offerings were made at bonfires.

Kato Syme, high on the slopes of Mt. Dikte overlooking the south coast of Crete, was an important open-air sanctuary apparently unconnected with any major settlement, and perhaps inaccessible during the winter. Nevertheless, Kato Syme shows evidence of both Proto- and Neopalatial cult activity, with clear indications of cult continuity into the historical period, when the sanctuary was sacred to Hermes and Aphrodite. Below an imposing waterfall, small ritual structures were laid out on a steep slope around areas that included large bonfires and places where votive offerings such as stone offering tables were deposited.

Most ritual equipment was portable and was stored in small rooms or closets when not in use (as at Nirou Chani; Ch. 6, p. 149): metal double axes (some large and clearly meant for public display, others small and made of gold or silver appropriate for dedications), tripod offering tables, and stone and pottery vessels (both are often found in pairs). A special class of stone ritual vessels includes bull's head **rhyta** (ceremonial vessels) for holding and pouring liquid offerings and carved relief rhyta with scenes of men and male activities (Ch. 6, p. 158). Ivory was used mainly for statuettes of men, such as the elaborate youth from Palaikastro (Ch. 6, p. 160; Pls. 6.9, 6.10); the ivory "goddesses" in modern museums appear to be fakes.[2] Faience was used instead for statuettes of women and for plaques of female costumes clearly meant

for suspension. Bronze could be used for votive figures of both sexes, alongside the traditional terracotta examples. The portability of all these objects suggests that there were few fixed or permanent locations for religious ceremonies – activities could be staged in different locations as needed. The Zakros palace, for instance, had storerooms with built-in clay chests that contained stone chalices, maces, and faience shells, all of which may actually have been used in the adjoining "banqueting hall" or the central court nearby (Fig. 6.5).

Engraved sealstones and metal finger rings (or their impressions in clay) provide additional evidence of ritual activities and the locations where they occurred. Women and men tend to appear in sexually segregated groups, except on a few sealstones and in a few of the Knossos frescoes where large numbers of people are gathered (the "Grandstand" and the "Sacred Grove").[3] The west and central courts of palaces may have served as the gathering points for these large groups. Although there were few, if any, built temples in the Classical Greek sense, small tripartite shrines are depicted repeatedly, often associated with small trees or large plants – men may pull on the branches, men embrace boulders, and men and women can appear in dances that have been characterized as ecstatic. The tree-pulling, boulder-embracing, and dancing may have been designed to provoke the divine epiphany of a goddess or god (Chs. 6, p. 159; 11, p. 279; Pl. 6.1).[4]

Some of these shrines depicted in art are so flimsy they may have been only facades set up at certain times and then dismantled. On a carved ivory fragment from Ayia Triada, two young girls garland flimsy pavilions set up on bases and crowned by horns of consecration, perhaps temporary constructions. The Zakros Sanctuary Rhyton (Pl. 7.1) depicts a peak sanctuary consisting of a tripartite façade with horns of consecration and "masts" set in the background like a backdrop for the courtyard in front (below, p. 180). This contains two altars: one a long, rectangular table and the other a Minoan incurved base – examples of both have been found at Archanes.[5]

Few images of goddesses or gods can be recognized beyond doubt. Because so many representations of important women survive, some scholars have hypothesized the existence of a supreme Minoan goddess, or of a whole series of goddesses. A suggested compromise proposes the existence of one main goddess with various aspects.[6] That these are speculations, rather than fact, should remind us again how nebulous our reconstruction of Minoan religion still remains.

Most convincing as the depiction of a goddess is the appearance in some scenes of a large woman, often placed centrally, seated on a rocky outcrop, built platform, throne, or abbreviated palatial architecture, and attended by extraordinary or supernatural animals such as lions and griffins (Pl. 7.2). Other depictions are more controversial. One such "mistress of animals" who could represent a divinity wears unusual headgear with wide, curving horns, surmounted by a double axe (the so-called **snake frame** headdress) whose significance is disputed. Other women may hold a staff (scepter or spear?) stiffly out in front of them in what is called the "Commanding Gesture," a conventional pose that could denote either divine or temporal authority. The figure of a man in similar pose on a clay **sealing** (a lump of clay impressed by a seal) from Chania (Pl. 7.3) has likewise been interpreted as a god or as a ruler; he stands atop a cityscape that includes a cliff, cave, and waves, perhaps depicting the ancient harbor of Chania itself.[7]

The presence of unusual animals is sometimes interpreted as signifying the divinity of the anthropomorphic figures that they accompany. These animals include lions and other felines, griffins (with eagle heads and wings and leonine bodies; Figs. 11.5c, 11.5e), Cretan **agrimia** (wild goats), monkeys, and various birds. Lions, griffins, and monkeys are clearly exotic creatures, associated with rulers or divinities in other ancient cultures of the eastern Mediterranean; their presence on Crete (Pl. 7.2) suggests a borrowing on at least the iconographic level. The presence of agrimia in a variety of Minoan scenes such as the Zakros Sanctuary Rhyton (Pl. 7.1) likewise suggests that they signaled something special.

Another clear instance of iconographic transfer from the supernatural realm is the figure of Taweret, a hippopotamus goddess associated with women and childbirth in Egypt.[8] She appeared on Crete in Protopalatial times, and continued in later periods, but we cannot be sure if the Minoans kept her original religious meaning when they borrowed and changed her image. On Crete, these creatures often hold libation jugs for pouring offerings, but they also have lion heads and perform a range of other activities. Because the image continued to evolve in the Aegean, this being is often called the "Minoan **genius**," and the Mycenaeans adopted her as well (Ch. 11, pp. 275–6, 279; Fig. 11.5d).

During the Neopalatial period, Minoan religious iconography and even specific cult practices such as peak sanctuaries and associated equipment spread off Crete to some of the "Minoanized" sites in the Cyclades

such as Ayios Yioryios on Kythera, Akrotiri on Thera, Phylakopi on Melos, and Ayia Irini on Keos (Ch. 8, pp. 189–97). Possibly this spread represents a form of religious colonialism with political overtones, similar to the role that the Catholic church played in the European colonization of the New World, the Far East, and much of the rest of the globe from the fifteenth century CE onward.

Most experts accept that the Ayios Yioryios peak sanctuary on Kythera, with its bronze and terracotta figurines and stone vessels (including one with an inscription), functioned like its religious counterparts on Crete. Similarly, Cretan style frescoes have been found on Melos, on Keos, and especially on Thera. Xeste 3 at Akrotiri on Thera (Ch. 8, pp. 192–3) had an intriguing fresco depicting two young women flanking a seated "Wounded Woman" with a bleeding foot, above a **lustral basin** (small sunken room of unknown function; Ch. 6, p. 148) on the ground floor; an adjacent wall shows a shrine façade and tree, motifs familiar from Cretan religious iconography. On the second floor of Xeste 3 another complicated scene (Pl. 7.2; Fig. 7.1) depicts a woman in Minoan costume, seated on a stepped architectural platform and attended by a blue monkey, a leashed griffin, and four young girls – the woman flanked by her exotic animals can be accepted as a (or the) Minoan goddess. A later sealstone, now in the Benaki Museum in Athens, shows a man standing on horns of consecration between a winged agrimi with a lion's body and a Minoan genius – like the Akrotiri goddess, he too should be divine.[9] As we travel farther afield, the evidence for Minoan religion becomes more tenuous and harder to interpret: the faience "sacral knots" and lion and bull's head rhyta in the Mycenae shaft graves could represent exotica rather than an adoption of Cretan belief systems (Ch. 11, pp. 259–61).

A special class of objects, stone offering tables, were dedicated at peak sanctuaries. Many of them carry a formulaic inscription in the script known as Linear A; these inscriptions seem to refer to a single goddess, "*JA-SA-SA-RA*" (below, pp. 174–7). Another aspect of Minoan religion is debated as well: the possible role of animal sacrifice, which is such a prominent feature of Greek religion in historical times.[10] Because of the repeated depiction of bulls and bull-leaping at Knossos (frescoes and relief frescoes, stone rhyta and relief vessels, terracotta vessels and figurines, seals, sealings, and finger rings), the capture of and playing with bulls as a prelude to sacrifice has been investigated from a number of viewpoints.[11] Because some scenes show bulls trussed on low tables, there seems little doubt that some of them were killed and consumed, in a practice that may have been social, religious, or both.

But in contrast to the historical period, there is little indication that portions of the animal were burnt as offerings to a divinity.[12]

More disturbing are the indications of possible human sacrifice in the Knossos area. A basement room in a LM IB house west of the palace contained cooking pots and the bones of several children that appear to have been defleshed deliberately.[13] Such defleshing is a practice in later Greek culture, but some have suggested that the children had been cannibalized, perhaps as the result of siege conditions or as an extraordinary sacrifice. At Anemospilia south of Knossos on the route up to Mt. Iuktas, a stone building (way station?) collapsed in an earthquake at the beginning of the Neopalatial period, burying four individuals, one of whom, a young male, was lying on a platform next to a lance blade. The excavator thinks the young male had been sacrificed[14] (he may more likely have been the victim of a hunting accident); without a complete and detailed excavation report it is difficult to interpret the event.

Finally, we should note that Minoan religion might have fluctuated considerably during the Neopalatial era. And it probably contained local elements; hundreds of sealings at Zakros, for instance, were impressed with the faces of three-sided prisms that depict bull-women, lion faces carrying snake frames, winged goat-men, and other strange monsters. At a number of sites, like Palaikastro, objects like stone horns of consecration were discarded or reused as building material during LM IB, perhaps indicating resistance in parts of the island to the tenets of established religion following the destabilizing eruption of the Thera volcano (Ch. 8, p. 189). Other locations, such as the island of Pseira, were given a relief fresco of a goddess and other cult equipment only in LM IB, following the eruption. What can be said with certainty is that the widespread destructions at the end of LM IB marked a significant change in Minoan religious practices.

Burial Customs

Despite the impressive remains of Neopalatial habitation sites, the accompanying cemeteries have proved elusive, leading some scholars, such as ourselves, to wonder if some Minoans of the New Palace period were buried at sea. Recent excavations, however, are helping to redress this imbalance, though most of the burials uncovered thus far represent the elite members of society, not the common people. The large

figure 7.1. Goddess in upper fresco from Xeste 3, Akrotiri, Thera. Drawing by Paul Rehak.

cemetery at Archanes–Phournoi (Pl. 7.4) extends over much of the long ridge below and to the north of Mt. Iuktas, and includes burials that run continuously from Early Minoan times through the Proto- and Neopalatial periods into the Late Minoan period. A wide variety of practices are represented, however: **tholos** tombs (round domed tombs), burial in built structures, **inhumation** (burial) and the use of terracotta sarcophagi, and the collection of skulls following the decomposition of the body.

Several cave tombs were found at Mavrospelio northeast of the Knossos palace, now augmented by the discovery of half a dozen pit-cave tombs used for successive inhumations (many of them warrior graves and burials with bronzes) excavated at Poros near Herakleion, one of the port towns of the Knossos area.[15] The Odos Poseidonos tomb at Poros consists of an antechamber and two main rooms with built dividing walls. Material from the earlier burials was brushed into a pit to make room for new arrivals, continuing an earlier Minoan practice. Though the tomb was partially robbed in antiquity and the entrance passage used for a dump, skeletal material – especially skulls – survives from a score of individuals. Some of these burials included rich grave goods: sealstones of semiprecious stone and an imported scarab, a gold finger ring and silver earrings, beads of various semiprecious materials, many small cups, an ivory comb, and plaques from a boar's tusk helmet. The complete lack of bronze and precious metal vessels suggests that the looters may have targeted these objects.

The Leophoros Ikarou tomb, located nearby, was similar in form but included an antechamber with a carved pillar along with several rooms. Once again, earlier burials were collected and redeposited in special areas, especially the skulls, which far outnumbered the complete bodies. Significantly, the use of the tomb began in MM IIB and expanded in Neopalatial times to the end of LM IB. In addition to the ubiquitous cups, there were signet rings of gold, silver, and bronze, an imported Canaanite amphora, more sealstones, and a wide range of personal ornaments.

In both tombs, individuals were laid to rest initially on plain or painted wooden biers or beds, sometimes deposited atop a low, built platform or dais. Significantly, this burial practice foreshadows by some seven centuries the later Greek rituals of **prothesis** (mourning the deceased on a bier) and **ekphora** (carrying a bier to a grave site) that we see on Late Geometric vases (Ch. 13, pp. 338–9; Pl. 13.2). The Minoan burials in Neopalatial sarcophagi at Archanes–Phournoi remind us that at least two types of funerary rites coexisted in Crete, but only in the succeeding period (LM II–IIIA) would sarcophagi begin to carry painted decoration that included the human figure.

Finally, two unique and enigmatic funerary structures deserve mention: the so-called Temple Tomb just south of Knossos and the Royal Tomb to the north at Isopata.[16] Both constructions seem to belong to the latter half of the New Palace period. The Temple Tomb was partially built into the side of a hill, with an open courtyard separating

an anteroom from a pair of chambers with a pillar; skeletal material (some of later date) suggests a funerary function for the building. The Royal Tomb, dismantled during World War II, consisted of a **dromos** (entrance passage) leading to a large, vaulted, rectangular chamber where the dead were buried. These different structures illustrate inventive approaches to funerary architecture for elite individuals or families in the Knossos area.

Writing and Administration

We first see administration on the Greek mainland in EB II, a sealing administration adapted from that which had already operated in the Near East for a millennium (Ch. 2, pp. 30, 34–5). Basic administration is simple: certain people and regions are expected (i.e., taxed) to produce specific goods; these are collected at an administrative center and redistributed back to the people.

A simple scenario for Minoan Crete would go like this: administrators at the regional center assess several villages to provide the state with a certain number of bushels of olives and jars of wine (both products ready for consumption by February). By the due date one village has contributed its total assessment, but other villages have made only partial payments – we can assume the remainder eventually will be paid. As the commodities enter the palace for storage, the administrators in charge tie string around the handles of the bushels of olives and over cloths that cover the mouths of the wine jars. Over the knots of these tied strings they then press lumps of clay and impress the clay lumps with the engraved seals and finger rings provided by the state; these sealings authenticate the transaction (Fig. 1.3). After the standardization of seal shapes at the beginning of the Neopalatial period, the styles of the engravings began to change in regular succession to correspond with major changes in administration. If olives and wine can be represented by tokens, say olive pits and grape seeds, and if the quantities needed are standardized (each bushel with a specified volume, each jar with a specified quantity of wine), then the entire transaction can be conducted without writing: as each village contributes its olives and wine, the administrators move the representative numbers of pits and seeds from an already established pile (the assessment) to create a new pile representing the commodities brought into the system. When the commodities are redistributed, specific quantities of wine and olives,

for example, going for state-sponsored ceremonies and other quantities to towns and people that provide other commodities to the state, then that amount of seeds and pits is removed from the "income" pile. At the end of the auditing period, the remaining wine and olives are counted in the storerooms and matched against the remaining tokens in the income pile. If the numbers match, then the procedure has been conducted honestly. Something like this system was probably happening at the Early Helladic II sites such as Lerna, where quantities of sealings have been recovered (Ch. 2, pp. 34–5; Pl. 2.1). These sealed string that tied the pegs of baskets and chests, perhaps containing textiles.

So few sealings survive from Early Minoan Crete that it is not yet possible to say whether a sealing system like that on the Greek mainland existed on the island at that time. At the very beginning of the Middle Minoan period, however, several sealings from Knossos testify not only to a sealing system of administration but also to writing (Fig. 1.3; Ch. 5, p. 130). A sealing system without writing can record income and expenditures but it cannot specify names, and the early Knossos sealings were impressed by seals bearing the name "*JA-SA-SA-RA*" in the script commonly known as Cretan Hieroglyphic (below, pp. 175–7); *JA-SA-SA-RA* may be the name of a goddess akin to the Hittite "Esha-sara" or the Levantine "Asherah."[17]

There were four scripts in preclassical Crete. All were syllabaries with approximately 100 signs, each of which represented either an open vowel, such as *a* or *e*, or a consonant plus vowel, such as *da* or *de* (Ch. 1, pp. 12, 14). The scripts also included "logograms," signs that stand for entire words such as the signs for "wine" and "olives" (and in Hieroglyphic and and in Linear A and B), and there were signs for pure numbers (base 10 system, like ours), standardized capacities (such as the bushel and wine jar and their subunits) and weights (such as the *talent*, 29 kg or 64 lbs.), and both common and unusual fractions. A few signs resemble Egyptian hieroglyphic signs, but not, apparently, with the same phonetic values.

Cretan Hieroglyphic is not a religious script (as the term "hieroglyphic" should mean) but a pictographic script, where many of the signs seem more like cartoons of common animals (such as a bull head for "*MU*") and things (such as a double ax for "*A*"). Because Hieroglyphic writing was often messy, the scribes usually prefixed an initial "X" to the beginning of words and phrases, to let the reader know where to start. Linear A (Pl. 7.5) began developing almost immediately (MM IB or IIA) from Hieroglyphic. Its signs present cursive

and abstract versions of Hieroglyphic signs (hence, "Linear"; cf. Linear A 𐘀 for "MU" and Hieroglyphic 𓄿 for "*MU*"), and the words and phrases are written on ruled documents with clearly marked dots to separate the words. In MM II and III Hieroglyphic and Linear A were apparently written simultaneously at the major sites of Knossos, Malia, and Phaistos.

Although we do not see Linear B until much later, it apparently began developing from Linear A early (Ch. 1, p. 14). Cypro-Minoan, another script derived from Linear A, appeared on Cyprus also early; the first CM document dates to the sixteenth century BCE. There may have been other early scripts in the eastern Mediterranean influenced by Linear A.

Cretan Hieroglyphic was incised onto sealstones (many of which record the name of the presumed goddess "*JA-SA-SA-RA*"), stone and clay vessels, and clay documents. The last come primarily in three different shapes, each presumed unique to a specific administrative function (Fig. 1.3): sealings over knots of string, "medallions" pierced to hang from a loop of string, and small rectangular bars that present administrative summaries. Linear A is found on different kinds of clay documents: sealings over knots of string, prismatic sealings over tightly wrapped leather "packages" (Pls. 7.3, 7.6; probably written documents on parchment), "roundels" that look like discs and are impressed by seals around the rim, and neat rectangular clay tablets (Pl. 7.5). Linear A inscriptions also appear on a variety of other objects: clay pots and storage vessels, gold hair pins, the insides of cups painted in a spiral (a gold finger ring also has a long inscription incised in a spiral), and many offering tables – but only one seal carries a Linear A inscription. Cretan Hieroglyphic and Linear A may have been written contemporaneously, but perhaps on different kinds of documents for different purposes or even different administrations.[18]

A few words appear in both Linear A and Linear B (the Mycenaean writing system, deciphered in 1952 as Greek; Ch. 1, p. 12); we can therefore be certain of the phonetic values for about 15 Linear A syllabograms, though the language written in it has not yet been deciphered.[19] For the other signs that look similar in both Linear A and B, scholars assume a similarity in phonetic values; with caution we may postulate similar phonetic values for signs in Hieroglyphic that look like predecessors to Linear A and B signs. Many Hieroglyphic and Linear A documents, especially the clay bars and tablets, record the same basic administrative transactions described above (pp. 173–4): the logogram for the commodity and a large number (its assessment), names of towns

or people, and their payments or non-payments. Linear A tablets often record subtotals of payments and deficits, each amount preceded by a two-syllable word, "KU-RO" for "payment" and "KI-RO" for "deficit." Hieroglyphic also records similar words preceding similar subtotals, "*KU-RO*" for payment but "*KI-RU*" for deficit. Because other words occur in both Linear A and Hieroglyphic (including important place-names and other transaction terms), it is likely that the scribes writing Hieroglyphic and Linear A were writing the same language – that which we call "Minoan."

What the Minoan language was, however, we are not sure. Because the earliest habitation levels in Crete betray a full knowledge of developed Neolithic culture and many of the objects look Anatolian in inspiration, it is presumed that Crete was deliberately colonized by people from southwest Anatolia (Ch. 4, pp. 79, 98–9). If so, the Minoan language may have developed from one of the languages in that region, perhaps Luvian. Other scholars see Semitic influences in Minoan,[20] but these depend solely on Semitic loanwords, such as "sesame," a word that appears in both Linear A and B (and English!). Because Hieroglyphic and Linear A documents are mostly accounting lists and because we have very few of these (only about a page and a half of Hieroglyphic when compressed into a single-spaced statement, and only about six or seven pages of Linear A), we therefore see only a few words whose prefixes or suffixes change according to grammatical function. Some words could be verbs, ending in *-SI* (singular?) or in *-TI* (plural?), such as '*U-NA-RU-KA-NA-SI*' and '*U-NA-RU-KA-NA-TI*' in the Libation Formula below. Other words look as if they could be Indo-European adjectives, ending in *-I-JA* (feminine?) or *-U* (masculine?); and some words look like nouns in an objective case ending in *-ME*, such as "*JA-SA-SA-RA-ME*" in the Libation Formula below. So far, however, Minoan resembles no single known language.

One of the more intriguing Linear A texts is the so-called "Libation Formula" that occurs on some 30 artifacts, most coming from peak sanctuaries.[21] The Formula consists of eight words. The first word occurs in many spelling variants, some of which transpose syllables (an invocation?); the fourth through eighth are always the same. The second usually consists of an identifiable place name ("*DI-KI-TE*" for Mt. Dikte, "*I-DA*" for Mt. Ida, and "*SE-TO-I-JA*" probably for Mt. Iuktas), whereas the third is always different and therefore is probably a personal name (or, in the case below, the names of two persons). Here is how

the formula goes when it is complete (the place name and the names of two people as found on a libation table from Palaikastro):

1: introduction	2: place name	3: personal names	4: Jasasara
A-TA-I-*301-WA-JA	A-DI-KI-TE	PI-TE-RI A-KO-A-NE	JA-SA-SA-RA-ME

5: 'dedicate' ?	6. Ipinama	7. Sirute	8: 'and' Inajapa
U-NA-RU-KA-NA-TI	I-PI-NA-MA	SI-RU-TE	I-NA-JA-PA-QA

We do not understand the formula completely but we can imagine the sense of it to be something like, "Oh! at Mt. Dikte, Piteri and Akoane dedicate [this] to Jasasara, something, something, and something."

The fourth script appears primarily on the Phaistos Disc (Pl. 7.7), a unique object found in a bin in the northeast corner of the palace (along with a Linear A tablet, but no distinctive pottery to suggest a date other than early Neopalatial at the latest). About the size of a large cookie, the disc was incised on both sides with a spiral and then stamped with individual metal stamps (like cookie-cutters) to create the signs that run along the spiral. Because some signs overlap their neighbors, we know that the inscription was stamped from the exterior to the interior, and probably should be read that way. Vertical lines divide the words, and every so often the last sign in a word receives an oblique stroke under it, as if to mark the end of a phrase. There are 45 different signs on the disc and 7 more on a bronze ax from Arkalochori; if there were more than 52 signs in the complete Phaistos signary, it too was probably a syllabary. Arranging the words by their apparent phrases (the oblique strokes), we can see that both sides end with similar series of phrases. The phrases on side A begin with similar signs, and those on side B end in similar signs, suggesting repetitious phrases on A and rhyming phrases on B. For these reasons, it is likely that the Phaistos Disc records a poem or song, or, if it is religious, as some suppose, a chant or hymn.[22]

How Minoan Society Operated: Politics and Belief Systems

If Crete in the Neopalatial period was heavily urbanized across most of the island, then it is difficult to imagine it fragmented into mutually exclusive states; instead, we should imagine a centralized political control, Knossos with some sort of hegemony symbolized by its throne, with secondary (Phaistos, Malia) and tertiary (Galatas, Gournia, Petras) regional centers, along with large (Chania) and small (Gournia) towns and farms (Ano Zakros, Zou; Ch. 6, pp. 150–52). The centers collected commodities as taxes from specialized producers and redistributed them to the general population. For this, the centers undoubtedly provided a navy and army to protect the population from piracy and brigandage, some kind of justice system to maintain order, a road system, and state-sponsored festivals and ceremonies that created a sense of divine protection and cultural identity. A similar set of functions characterized Mycenaean states, for which we have written as well as archaeological evidence (Chs. 12, pp. 292–303; 13, pp. 350–52, 354–6).

The dense urbanization also implies that the inhabitants enjoyed some kind of mobility. Under what circumstances a general freedom of travel could exist is difficult to imagine, or for what purpose other than commerce and pilgrimages to regional festivals. We have some evidence for business in the modern sense. Standardized weights and measures and complicated transaction documents reflect an agreed-upon system of exchange and procedure. Bronze "oxhide" ingots from many sites and a stone weight with an octopus in relief all weigh approximately a Minoan talent (29 kg or 64 lbs.). The inscribed **pithos** (large storage jar) from Ano Zakros states that it holds 32 Minoan units of wine. If filled to the brim it would have held 998 liters (or 32 units of 31-plus liters). But the pithos would not have been filled to the brim, and so the Minoan unit would have to have been less than 31-plus liters. If the Minoan unit was the same as the Mycenaean unit (28 liters) the pithos would have held 896 liters. Finally, an odd document sealing found at Chania was impressed twelve times with eleven seals, perhaps indicating as many as eleven individuals involved in a transaction. The Linear A documents, unlike those in Linear B, do not seem to characterize individuals or list large numbers of people. Only the Harvester Vase, a stone relief rhyton (below, p. 181; Ch. 6, p. 158), depicts a large undifferentiated group of male workers led by an important man and his overseers. The workers carry winnowing fans or flails but no produce; perhaps the scene represents nothing more than the owner of a villa leading his seasonal

agricultural workers to the fields or orchards. It is possible, therefore, to imagine much of the population free, and free to travel when they needed.

Society was ranked, however; the differences in domestic architecture (for example, the houses of Gournia that share partition walls, and the more elegant independent residences such as Nirou Chani (Pl. 6.7), villas, and farm complexes) and the differences in costume (long robes or work shorts for men) make it clear that people differed greatly in status and wealth. Evidence from frescoes also suggests that Minoan society was sex-segregated, at least at ceremonial gatherings. The Grandstand fresco portrays women in elegant flounced dresses sitting together and apart from a large undifferentiated red mass of men dressed (like the agricultural workers on the Harvester Vase) only in breechcloths with codpieces, their chests and limbs bare. In the Dance in the Grove fresco these lightly clad men and formally dressed women watch several women dance in what may be the West Court at Knossos.[23]

The representations on sealstones and in frescoes show major gender differences as well. There are clear representations of powerful men and women, but their power is expressed in different ways. Female deities usually sit on a platform associated with a small built structure, perhaps an altar or shrine; animals and people bearing gifts approach them. In a couple of instances the women are accompanied by supernatural animals, a leashed griffin in the fresco from Xeste 3 at Akrotiri (Pl. 7.2), Thera, and "genii" on a gold finger ring from Tiryns on the mainland (but datable to the very end of the Neopalatial period). Far fewer representations depict what could be male divinities: men who stand between two rampant lions or who hold griffins on a leash.

Powerful human men also appear: men standing erect hold out a staff in front of them in the Commanding Gesture, as on the "Master" seal impression from Chania (Pl. 7.3), and on the Chieftain Cup from Ayia Triada; and in the ship fresco from the West House, Akrotiri, men sit bundled up either alone in open shipboard cabins or under awnings.[24] Several important human women can also be detected, but they are not obviously wielding or enjoying power. In frescoes and on gold signet rings women are portrayed in a variety of settings: kneeling in a luxuriant rocky landscape, dancing in a courtyard, getting dressed, picking crocus flowers, holding or fingering necklaces.

Several women and men toward the bottom of the social scale also appear. In frescoes from the West House at Akrotiri, a woman has fetched water from a fountain and now carries it back in a jar balanced

on her head; men take out goats and bring back sheep; soldiers in line march off to duty; and townsfolk, both men and women, eagerly expect the arrival of important men in festive ships, each paddled by a cramped line of hard-working sailors.[25]

More women than men, however, appear in powerful roles, at a larger relative scale, and their importance seems assured by the number of them who sit on camp stools, stools like hassocks, and thrones (chairs with arm rails and backs). Besides the throne at Knossos, several other stone seats have also survived; Evans made the interesting comment that the tops of these seats have been hollowed to suit a woman comfortably.[26] The throne at Knossos faced a lustral basin and was flanked by benches, but in the other palaces we find only benches, no thrones; perhaps we can imagine a powerful woman on the throne at Knossos flanked by male counselors, and similar arrangements at the secondary centers. At Ayia Triada the benches in room 4 could seat more than twenty-five people – perhaps too many for a cabinet meeting! – and next door is another complex of a **polythyron** (room with pier and door partitions) and a narrow shrine that once contained a fresco of a kneeling woman in a luxuriant garden landscape with crocus and lilies. On the opposite wall is a mountainous scene with more plants, along with cats and agrimia. Connecting these scenes is a woman or goddess standing among myrtle plants in front of an architectural platform.[27]

Women are not the only ones associated with religion; the stone relief vases depict only men at peak sanctuaries, but we know from the terracotta figurines left at peak sanctuaries that women attended them as well – perhaps at different times. For example, the Sanctuary Rhyton from Zakros depicts a peak sanctuary in its entirety, but no people (Pl. 7.1; above, p. 167); on the top of a mountain sits a shrine approached by steps all surrounded by a tall wall. Agrimia lie on top of the shrine and others scamper in a rocky landscape strewn with clumps of crocus plants whose flowers have all been plucked – except for one clump that retains most of its flowers. Does the vase imply that girls have been there, gathered the crocus, and left? And does the absence of human figures imply we should anticipate the next visit, that of men? Akrotiri's Xeste 3 fresco and paintings at Knossos identify only girls and monkeys as crocus-gatherers, an activity that probably took place in late October, when the autumn crocus produces the saffron stigmas.

Bull-leaping was probably another seasonal activity, perhaps in the late spring or early summer after calving;[28] it is possible that it and its subsequent events may have corresponded to the Bouphonia festival in classical Athens in early July. From various depictions in fresco,

on seals, and on ivories we can reconstruct almost the entire cycle: young men first had to net and subdue huge wild bulls of the now-extinct species *Bos primigenius*; at some point, youths also wrestled bulls to the ground, and may even have trained them, having presumably brought them back to palace compounds. Both young men and young women, to judge by the color conventions in fresco (red flesh for men and white for women), leapt the bulls, probably in the central courts (there are architectural arrangements at Phaistos and Malia for providing temporary barricades along the sides to protect the spectators).[29]

In the late Neopalatial period, the representations of bull-leaping have the leapers grabbing hold of the bull's horns, anticipating that the bull would toss its head obligingly back so the leaper could be flipped over the bull's head to land feet-first on the bull's back before finally jumping neatly off onto the ground. Front and rear assistants helped with the leap. And all this while the bull was charging! In the LM II–III period, however, the sequence changed: leapers stood on an elevated platform or on an assistant's shoulders and when the bull charged they flung themselves headlong over the bull's neck to push off with their hands on the bull's withers and execute a somersault before landing on the ground (Fig. 11.5b). Several seals and a panel on the LM IIIA Ayia Triada sarcophagus show the slaughtering and butchering of bulls, and it is possible that the bull-leaping ceremony ended with the sacrifice of the bull and general feasting.

There must have been other celebrations and ceremonies at other times of the year; the calendars of the classical period and of our own time are full of get-togethers to celebrate agricultural seasons and religious events. The Harvester Vase (above, pp. 178–9) portrays agricultural workers going out to the fields singing. If they are threshing wheat, as their flails suggest, this must have occurred in early summer, as their light clothing also attests. The naval procession depicted in the fresco from the West House, Akrotiri, probably celebrates the opening of the sailing season in late April. To predict these events, the Minoans must have had some notion of astronomy, heliacal risings of important stars like Sirius, and the procession of the zodiac – peak sanctuaries would have offered ideal locations for studying the stars.[30]

The most vexing problem for students of Minoan culture is the secure identification of rulers and gods. The goddess in the fresco from Xeste 3, Thera, attended by extraordinary animals and girls (Pl. 7.2), may correspond to Artemis (known in Linear B),[31] but other depicted divinities are difficult to identify by name. Because mythological animals such as griffins, sphinxes, Minoan genii, and winged agrimia logically

belong to the divine world, the human figures they attend (the seated woman amongst the crocus gatherers in Xeste 3, Akrotiri, and the male figure on the Benaki sealstone [above, p. 169][32]) should be divinities. Without these mythological creatures, other humans in powerful poses such as the Commanding Gesture or being saluted by other humans are probably powerful mortals.

The prominence of females in Neopalatial art, important mortal women and goddesses (by the definition above), makes it possible to imagine that women dominated Neopalatial society, perhaps even politics. All human societies, however, ancient and modern, have been patriarchies with men in positions of authority; no matriarchy has ever been documented. But Neopalatial Crete offers the best candidate for a matriarchy so far. If Neopalatial Crete was matriarchal, or partially so (in religious matters?), we might imagine that when the Mycenaeans took Crete over, presumably after LM IB, they imposed a patriarchal system, perhaps even violently, thus accounting for the LM IB destructions by fire and the concomitant loss of many Minoan art forms, many of which are religious (see, however, Ch. 12).

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8: Minoan Crete and the Aegean Islands

Jack L. Davis

Introduction

The nature of Minoan involvement in the Aegean islands is an intrinsically fascinating question for a prehistorian of Greece, one that has been debated since the very beginning of our field. It also constitutes an excellent case study of broader interest in world archaeology.[1] What causes promote the cultural assimilation of one group by another? How do the opposing forces of socioeconomic domination and resistance manifest themselves in material culture? For at the beginning of the Late Bronze Age, the communities of the Cyclades and of other islands of the Aegean Sea were so radically altered by contact with the Minoan civilization that scarcely an aspect of life in them was left unaffected.[2] As for the field of Aegean prehistory in general, fundamental research questions that concern Minoan Crete and the Aegean islands have often been framed in response to testimonia preserved in Greek texts of the historical period. Literary sources are thus an aspect of the problem that deserves attention before we consider archaeological data.

In the following section, therefore, we will first review the ancient written tradition. Then we will examine the actual archaeological evidence, as it has been uncovered at several representative and well known sites in Greece and western Turkey. Finally we will turn to the reasons that Cretans may have been attracted to the Cycladic and Dodecanesian islands, and to their impact on these areas. It will be suggested that the changes observed in the material culture of island settlements during the Cretan New Palace period are likely to have been prompted by a number of internal and external factors: the migration of Cretans

abroad; the adoption of Minoan methods for administering increasingly centralized island economies; and emulation by local elites of Cretan ways of doing things, encouraged by competition among factions in island communities.

The Literary Traditions

Homer, the earliest Greek poet, provides a considerable number of references to King Minos of Crete, as do later authors.[3] Archaeologists have been tempted to see in such sources a remembrance by the historical Greeks of a prehistoric past – of the Cretan civilization that we today call Minoan (Chs. 5–7). Even a fanciful tale such as that of the Minotaur has been imagined to contain a kernel of historical truth. King Minos' wife, Pasiphae, bore this monstrous creature, part man and part bull; he was locked in a labyrinth constructed for him by Minos's master craftsman Daedalus. Do Daedalus' miraculous abilities reflect the skills of Minoan craftsmen? Is the labyrinth a vague recollection of the labyrinthine passageways of the palace uncovered by Sir Arthur Evans at Knossos (Fig. 6.1)? Could the Minotaur himself be the product of a fractured memory of rituals of bull sacrifice or of athletic bull-leaping?

Above all, King Minos appears in historical Greek literature as a powerful king, whose navy enabled him to rule over wide dominions and to police his empire of the sea – his thalassocracy. Overseas territories were attributed to Minos as early as Hesiod, writing in the eighth century BCE. Minos, his children, and his brothers were said to have founded a great many colonies in the Mediterranean: in Italy and Sicily to the west; at Miletos and in Lycia in western and southern Turkey; on the Levantine coast to the east; in Libya to the south; in central Greece and the Troad to the north. Of particular concern in this chapter are those literary works that assert his control over the islands of the Aegean Sea.

Thucydides, writing toward the end of the fifth century BCE, was quite clear on this point:

> Minos was the oldest of those who we know possessed a navy and he dominated most of what is now called the Greek Sea. He ruled the Cycladic islands and was first to colonize most, after he drove out the Carians and established his own sons in them as sovereigns.
>
> Book I, 4, ed. H. S. Jones, trans. by the author

Some of these traditions are quite specific, as in the case of the island of Keos, where one clan (called the Euxantidai, "descendants of Euxantios") in historical times traced its pedigree to Crete. In the early fifth century BCE, the poet Bacchylides, himself from this island, described how once

> Warlike Minos came with a host of Cretans in fifty ships with swift sterns. By the will of Zeus who brings glory, he married the ample-bosomed maiden Dexithea and left her half of his people, men who were devoted to Ares, god of war. Then after distributing this mountainous land to them, King Minos, he of Europa's bloodline, sailed back to Knossos, his beloved city. After nine months the fair-haired maiden Dexithea bore Euxantios to rule over the celebrated island of Keos.
>
> Ode I.113–27, ed. R. C. Jebb, trans. by the author

The Archaeological Evidence

How well does the archaeological record of real life agree with this literary tradition of a "Minoan thalassocracy"? There is, in fact, considerable evidence that in the Minoan New Palace period, from MM III through LM IB, contact between Crete and the southern Greek mainland, Kythera, the islands of the Aegean Sea, and western Turkey was frequent, in some instances constant, and that it had a profound influence on the development of preexisting local cultures. Any consideration of the historical worth of the later Greek traditions as regards the islands of the Aegean Sea must take into account the stratigraphy of four archaeological sites in the Cyclades and Dodecanese (Akrotiri on Thera; Phylakopi on the island of Melos; Ayia Irini on Keos; Trianda on Rhodes) and two in western Turkey (Miletos and Iasos). The *process* of Minoanization, that is, the infiltration of local culture by Cretan ideas and traditions, can be seen most clearly at Ayia Irini, because excavations have substantially clarified its history prior to the beginning of the Late Bronze Age. Excavations at Akrotiri and, to a lesser extent, Trianda provide a vivid picture of the results of full-blown Minoanization two centuries after regular contacts between palatial Crete and the Aegean had been established.

What we cannot yet determine with any precision are the particular political units on Crete that were responsible for initiating, promoting, and maintaining contacts with the outside worlds of the eastern

Mediterranean. It should be our goal in the future to define these relationships with ever-greater precision, and no longer to speak in vague terms (as I do here) of "Minoan influences," as if the island of Crete were a monolithic and at all times politically unified entity. Already there are hints of relationships between specific Cretan centers and individual settlements abroad: for instance, in the use of the same seals at Akrotiri on Thera and at Ayia Triada and Sklavokampos on Crete, or in the presence of pottery with parallels at several Cretan centers, at Ayia Irini on Keos and at Akrotiri on Thera already in later Middle Bronze Age levels.

Akrotiri

The existence of prehistoric remains on the island of Thera, also known by its modern name Santorini, came to the attention of scholars in the middle of the nineteenth century CE: these were among the very first archaeological sites to be investigated by the fledgling science of archaeology (Ch. 1, p. 1).[4] Thera today consists of a ring of three land masses surrounding the caldera of a volcano, only about 70 km to the north of Crete (Pl. 8.1).[5] Until the beginning of the Late Bronze Age these three islands, Therasia, Thera, and Aspronisi, appear to have been part of a single, densely inhabited land mass encircling a deep bay that opened toward the southwest. In the LM IA period, the volcano erupted with force, rending this island into three pieces and covering its settlements with deep layers of ash and pumice (Ch. 1, p. 6). The inhabitants must have had warning, for they had evacuated the island before the catastrophic eruption. Protected under the weight of volcanic debris, the well-preserved towns, like prehistoric Pompeiis, lay relatively undisturbed for over three thousand years until they were noticed on Therasia and Thera in the course of mining for volcanic products to be used as ingredients in cement for the Suez Canal.[6] The site of Akrotiri lies near the southern coast of Thera, the largest of the three islands. Before the eruption, there was a small bay nearby to the west.

Systematic, long-term excavations were initiated at Akrotiri only in the later 1960s, by the Greek archaeologist Spyridon Marinatos.[7] To date, these excavations have concentrated on exploring the settlement as it existed immediately prior to the eruption. But it is clear from various deeper soundings (made for the insertion of columns to support a metal roof over the excavation area) that Akrotiri, like each of the other sites

examined below, had a very long history. The earliest remains that have been found date to the transition between the Neolithic period and the Bronze Age (Ch. 3, p. 51).

Some imported Minoan pottery bears witness to contact with Crete already in the Early Bronze Age and at the start of the Middle Bronze Age (Chs. 3, p. 67; 4, pp. 90, 94–5; 5, pp. 128–9), but there is little to prepare us for the all-encompassing Minoanization that occurred in the final stages of the settlement, contemporary with the Minoan Neopalatial period, MM III–LM IA. Indeed, most pottery of the earlier Middle Bronze Age was decidedly Cycladic in character and it shared features with the local styles of Phylakopi and of other Aegean islands.

In the time of the New Palaces, not only were large numbers of actual Cretan vases imported to the Aegean islands, but also potters in Cycladic centers more widely and more extensively imitated Minoan styles. Painted vases produced by Cycladic potters at that time fall into two broad classes, one innovative and the other conservative. Pottery of the latter group followed native Middle Bronze Age fashions and vessels were generally handmade. Designs were often inspired by forms found in nature and were frequently curvilinear. Black paint could be used to outline the red bodies of birds or even of fanciful animals such as griffins, evidence of a certain imagination that is also recognizable in the very shapes of vases. Ewers might be given nipples and ears, transforming them almost playfully into the bodies of animals. Some one-handled cups had "paneled" decoration covering only that part of the surface that was visible to companions when the imbiber held it in his right hand.

This local Cycladic repertoire was increasingly swamped by wheelmade work of somewhat less original potters; these were innovative in the sense that they imitated imported Minoan vases that were new to the islands. Designs that they copied or modified included spirals; bands of leaves known as "foliate bands"; reeds; and zones of parallel, wavy vertical lines, the so-called "ripple pattern." Yet imitation of Cretan antecedents was not slavish. Although often they used only a single color of paint, the most ambitious of Cycladic potters employed black paint judiciously to pick out the details of patterns in red, in a very un-Minoan manner. Contact with Crete did not have an impact only on designs. Few Cycladic shapes are without Minoan predecessors, even those used for the preparation of food, a humdrum category not normally subject to innovation.

Only a small part of the settlement of Akrotiri has thus far been excavated, owing to the substantial difficulties in removing the deep overburden of volcanic debris that still covers its structures. The exposed

town consists of a series of elaborately built houses and mansions (some ten have been investigated thus far), most bordering a long north–south street. This is the so-called Telchines Road, named by Marinatos after a group of demigod craftsmen who once were thought to have inhabited Thera and other Aegean islands. Many of these buildings employ **ashlar** masonry (smoothed rectangular blocks) cut of soft stone. Houses have two and even three stories, with indoor staircases.[8] Some rooms were built in the Minoan **polythyron** style of construction (a room with pier and door partitions; Ch. 6, pp. 148–9; Pls. 6.6, 6.7). Interior space could be divided into larger or smaller units by opening or closing the doors. Walls were often decorated with paintings in a Minoan idiom. But despite these Cretan features in architecture, when possible the Late Bronze Age houses reused or modified the foundations of older structures.

Two of the best known will serve as examples of the mansions of Akrotiri. The West House forms the northwestern edge of a small piazza, "Triangle Square," along Telchines Road.[9] Mansions such as this are totally new to Thera, and, as far as we can tell, to the islands of the Aegean. In their form and in the extensive use of figural frescoes, they employ an architectural vocabulary similar to that of the villas that were being built throughout the island of Crete in the LM I period (Ch. 6, pp. 143–6, 149). The West House consists of two stories, with a third at least at its eastern end. A large window looks out to the Square from a central rectangular room that occupies much of the ground floor. To the east of the window and also opening onto Triangle Square, a door leads to a staircase. On the first landing one could enter the rooms of the second story, or continue ascending to a higher floor. A second smaller staircase serves the back of the house.

Thanks to the remarkable preservation of the site, we can observe the second story as clearly as the ground floor, an opportunity unique in Aegean Bronze Age archaeology. To the southwest of the large central room, lightly built walls divide the space into two rooms (numbered 4 and 5). In the southwest corner of Room 5, a small cubicle (Room 4a) is further partitioned for use as a lavatory. The walls of both Room 4 and Room 5 are lavishly decorated, with frescoes that are among the best known of those excavated at Akrotiri.[10] Like the architecture of the mansions at the site, their themes belong to a Minoan milieu. To either side of the western window of Room 4 is a representation of lilies potted in marble vases. The walls of the room are decorated with the cabin of a ship; the design repeats itself eight times. On the western jamb of the doorway leading from Room 4 into Room 5 is a figure of

a young girl, perhaps a priestess, about a meter high. She holds a scuttle with hot coals inside, onto which she seems to sprinkle incense.

The so-called Ship Fresco runs around all four walls of Room 5. One group of fragments, high on the north wall, shows a gathering of men on a hill. Another group consists of several ships; nearby men seem to drown in the sea. To the right, a column of warriors departs from a building, armed with helmets of boars' tusks, shields, and spears. Lower down on the wall, in the northeastern and southwestern corners of the room, are large-scale figures of naked youths holding stringers of fish. Above doors in the eastern wall is an exotic riverine landscape with both real and fantastic wild beasts. On the southern wall, toward Room 4, an elaborate composition depicts three seaside towns and a procession of sailing ships. Festoons hang from the masts of the ships, as if a celebration is underway, and their arrival appears to be joyously anticipated by those on shore.

East of Telchines Road and at the southern edge of the area thus far excavated is Xeste 3, so-called because of its imposing ashlar facade (*xeste* is Greek for "hewn").[11] Unlike the West House and other houses in the settlement, which employ ashlar blocks only in limited numbers, the entire eastern wall of Xeste 3 and the eastern part of its northern wall were built in this style. Xeste 3 was also a larger and more complex structure than the West House, and was definitely three stories high in its western half. It is the second most fully explored house in Akrotiri, and contained more frescoes than have yet been found in any other structure. The themes of the frescoes are amazingly varied, ranging from spirals and rosettes to scenes from nature to representations that are indisputably religious in content.

Room 3, in the northeastern corner of the house, is subdivided into three parts by polythyra, on both the ground floor and the first floor. The small ground-floor room in the northeast corner of the house was designed, uniquely for Akrotiri, as a **lustral basin** (a small sunken room of unknown function; Ch. 6, pp. 141, 148; Pl. 6.4). On the eastern wall is a representation of a Minoan double-doored shrine surmounted by **horns of consecration** (a symbol shaped like abstract bull horns; Ch. 6, p. 148). Red strands of saffron stigmas have been hung on the horns and on its doors, and a tree grows behind this building, as in many representations of shrines in Cretan art.[12] Three veiled women on the north wall face the shrine. The central figure of the three, seated on a rock, tends her injured and bleeding foot. Above the lustral basin, on the second floor, women are depicted as they gather stamens (saffron) from a field of blooming crocus flowers,

perhaps for medicinal purposes.[13] Baskets of stamens are being emptied at the feet of a large seated female figure, painted in the center of the northern wall: this goddess, for that she surely must be, is flanked by a tethered griffin and a blue monkey (Fig. 7.1; Pl. 7.2). She wears a necklace with duck and dragonfly beads and a viper slithers up the back of her head. Also on the second floor, at the western side of Room 3 in the small space defined by the polythyron, are figures of naked boys and of an older, seated man dressed in a loincloth. It has been argued that all the frescoes from Room 3 provided a backdrop for the ritual initiation of young men and women into the community of Akrotiri.

The stunning consequence of the entrance of the Minoans onto the Cycladic stage at Akrotiri was a fascinating blending of Cretan and local material culture. Traditional island modes of decoration survived on vases that sat alongside trendy new fashions on the tables of the prosperous residents of the settlement. Builders at Akrotiri were, however, quick to adapt contemporary Minoan styles and architectural forms absolutely typical of the Cretan New Palace period, such as the polythyron and the lustral basin. The availability of easily sawn volcanic stone made it possible to imitate Minoan ashlar masonry on Thera more closely than was possible on islands like Keos, where the local geology provided no such suitable materials.

One aspect of life at Akrotiri that was, moreover, entirely Cretan in origin was the adoption of the Minoan Linear A script for the keeping of records. The discovery at Akrotiri of signs in this script incised on pottery, both before and after firing, and on fragments of locally made clay tablets suggest that in the Cyclades, the same bureaucratic machinery existed that was used in the administration of Minoan palaces (Ch. 7, pp. 173–7). It is clear that the islanders were also familiar with Minoan sealing practices, because a cache of clay **sealings** (lumps of clay impressed by a seal; Fig. 1.3) was found in a compartment adjacent to that in which the tablets were discovered. The clay of the sealings does not appear to be local to Thera, however, and impressions made from the very same seals that made those on many of the Theran examples have been recognized in central Crete.[14]

Ayia Irini

The site of Ayia Irini lies on a low peninsula at the northern side of a deep bay at the northwest side of the island of Keos (Pl. 8.2).

Archaeological remains attracted the attention of a German archaeologist, Gabriel Welter, at the time of the Second World War. Subsequently, major explorations of the site were conducted by an American team under the direction of John L. Caskey between 1960 and 1969. The results have thus far been published in nine volumes, each devoted to a phase in the occupation of Ayia Irini, or to a particular category of artifacts.[15] Deep strata of the Middle Bronze Age were preserved. It is thus possible to follow the history of contacts between Keos and Crete from MM IB, when the earliest Minoan pots were imported to Ayia Irini, through the earliest phases of the Late Bronze Age, when the settlement, like Akrotiri, was deeply affected by Minoan civilization in most aspects of its existence. It is clear that this process of Minoanization was gradual, but also that it accelerated at certain points in the life of the settlement, notably at the end of the Middle Bronze Age.

The various phases of the settlement at Ayia Irini have been labeled with Roman numerals, from I (the end of the Neolithic) through VIII (the Mycenaean period). Still later, in Classical times, there was a shrine to Dionysos. Four phases in the occupation of the site are of interest in this chapter: Periods IV and V of the Middle Bronze Age, and Periods VI and VII of the Late Bronze Age.

The settlement at Ayia Irini appears to have been abandoned temporarily after the end of the Early Bronze Age, following a phase characterized by the presence of some ceramics manufactured in an Anatolian style (the Kastri group, Chs. 2, pp. 35–6; 3, p. 61; 4, p. 94; 9, p. 213).[16] In the earlier part of the Middle Bronze Age, the settlement was founded anew.[17] Styles of masonry were different from those that had come before, locally produced pottery owed relatively little to Early Bronze Age precedents, and houses were differently oriented. From the very beginning of this phase of the settlement, life at Ayia Irini was cosmopolitan, in the sense that ceramics reached the site from Crete, other Cycladic islands, and the Greek mainland. The new settlers, like those of Early Bronze Age Ayia Irini, were attracted to the peninsula not only because it offered a defensible position near the sea, but also because there was a source of water. This site was eventually fortified (still within Period IV) by a strong town wall with at least one horseshoe-shaped tower, reminiscent of those in the final Neolithic fortifications at Strophylas on Andros and in the Early Bronze Age fortifications at Chalandriani on Syros and at Lerna in the Argolid (Chs. 2, pp. 31–2; 3, p. 52; Fig. 2.6).

It is at Ayia Irini that we can get the best idea of what Cycladic settlements were like before interaction between the islands and Crete became routine. Only there and at the site of Paroikia on Paros is it possible to catch more than a glimpse of a Middle Bronze Age Cycladic town, because at sites like Akrotiri and Phylakopi such remains lie hidden beneath buildings of the Late Bronze Age that have not been removed. Plans of Middle Bronze Age houses at Ayia Irini, as at other typical Cycladic sites, are simple and there is no proof that any had a second story. There are no obvious Cretan elements in their architectural style, as are evident in the Late Bronze Age houses at Akrotiri and in later houses at Ayia Irini itself. The plastering of walls was not a widespread practice and no traces of figural representations on frescoes have been found. Potters looked more to the Greek mainland for inspiration than to Crete. Designs were borrowed from the Minyan and matt-painted styles characteristic of the Middle Helladic period (Fig. 10.1; Pl. 10.1). More characteristically Cycladic was a tradition of producing pots with highly polished, lustrous surfaces, sometimes red with patterns in white – the so-called Cycladic burnished wares (Pl. 8.3). Pottery was largely handmade.

Despite some contact with Crete, Minoan fashions and technologies had relatively little effect on the local craft traditions of Ayia Irini in Period IV. This situation began to change rapidly in the succeeding period, which can be dated near the end of the Minoan Old Palace period on the basis of Cretan imports.[18] The start of Period V is marked by the construction of a more grand and extensive circuit wall, built for the most part of massive, roughly hewn rectangular blocks of limestone. Rectangular towers replaced the horseshoe-shaped tower of the earlier fortifications, and the settlement was entered through a wide gateway at its eastern side. Architectural remains of this period are not as well preserved as those of Period IV; they lay at higher elevations and were much cut away by builders in the early phases of the Late Bronze Age. Minoan pottery was more abundant now and Cretan shapes were extensively and closely imitated in pottery made locally. The Cretan Linear A script was used, as at Akrotiri (and Phylakopi: below, p. 197).

The next phases of the settlement saw a virtual avalanche of Minoan influence. In Period VI, roughly contemporary with the LM IA period of Crete, several grand houses were built. By the succeeding Period VII (LM IB), these had evolved into veritable mansions. Although builders were limited by the properties of local stone, and

thus lacked ashlar masonry, it is clear that these buildings, like the houses at Akrotiri, were patterned on contemporary structures in Crete. Although local traditions were not entirely extinguished in Periods VI and VII, Minoan influence was evident in almost every element of daily life. Cretan instruments employed in weaving were adopted: viz., discoid weights for warp-weighted looms.[19] For the manufacture of scented oils, Cretan burners were made and used. Scoops, trays, stands, and many other forms of specialized ceramic utility vessels were now introduced from Crete for the first time.[20] The popularity of Minoan light-ground pottery with decoration in floral patterns encouraged the modification of traditional potting techniques, and the dark red clay of Keos was given a coating of yellow ochre to make it suitable for such patterns.

Two structures in the settlement of Ayia Irini were especially affected by contact with Crete. To the left of the main gateway to the town, a long narrow building, the Temple, clearly served as a place of worship. It may already have been a holy place in the Middle Bronze Age. By LM IB more than fifty large-scale terracotta statues of women in Minoan dress had been made of local clay and were being employed in it as cult paraphernalia (Pl. 8.4).[21] There is also evidence for an extramural shrine on the hill of Troullos, overlooking Ayia Irini. Not only Minoan style pottery has been found there, but also a bronze male "saluting" figurine and a marble ladle, of types commonly presented as votives in Cretan sanctuaries (Ch. 7, pp. 165–7).

The most impressive domestic building in the town was House A.[22] This structure may, at its maximum extent, have occupied an entire block of the town, and was surrounded by alleys. Beneath their pavements were drains to conduct rainwater away from the house. The principal entrance of House A opened north into a small piazza, from which it was a short walk to the main gate of the town. From a small alcove inside the entrance a stairway led to domestic living quarters on the second floor in the center of the house, and to state rooms in its eastern parts. The latter included several Minoan features (Ch. 6, pp. 141–5): a columned hall, a paved bath, and an elegant parlor. Also Minoan is the **light well** (a small room open to the sky; Ch. 6, p. 149), which allowed air and light to reach into ground-level and second-story rooms. As in the houses of Akrotiri, the walls of some of these rooms were adorned with frescoes, although these are not yet well known. A second staircase descended to a kitchen and to deep basement rooms where gigantic **pithoi** (large clay storage jars) of Minoan type had been stored.

Phylakopi

Phylakopi on Melos, like Ayia Irini and Akrotiri, is a deeply stratified archaeological site, where one can observe the process of Minoanization as it occurred over a long period of time. The town, like Akrotiri, appears to have been substantially larger than Ayia Irini. Much of the site was uncovered in the course of campaigns by British archaeologists in the 1890s, before the unveiling of the Minoan civilization on Crete. Good records of the earliest excavations were maintained by Duncan Mackenzie, who was later to become the foreman of Sir Arthur Evans at Knossos. Additional test excavations followed in 1911 and, more significantly, in the 1970s. The stratigraphy of Phylakopi has always served as an essential framework for the overall scheme of Cycladic chronology.[23]

As at Ayia Irini, Cretan pottery first reached Phylakopi early in the Middle Bronze Age, at the start of the phase that has been called Phylakopi II.[24] Excavations have revealed the plan of a densely occupied settlement, with blocks of houses separated by a grid of streets approximately oriented to the points of the compass. Potters at Phylakopi in the Middle Bronze Age produced vessels decorated with stylized plants and animals in black and red matt paint and also handmade wares that were, as on Keos, burnished to a high luster. These were exported to many other parts of the Aegean, including Crete, where a series of Melian "bird jugs" was found in the Temple Repositories of the Palace of Knossos itself.

In Phylakopi phase III, contemporary with LM IA and IB, the settlement evolved in ways similar to Akrotiri and to Ayia Irini.[25] At the beginning of the Late Bronze Age, two rooms were built with pillars of ashlar blocks. In one was a spectacularly realistic fresco that included flying fish (Pl. 8.5).[26] Not far to the east was a large mansion, in the place where later would be erected a Mycenaean **megaron** (Ch. 11, p. 262; an axial building unit consisting of main room with anteroom and/or porch). This building was probably the administrative center of the town, and in its ruins were recovered fragments of a tablet in the Minoan Linear A script, made of local clay as on Thera and Keos. In addition, a strong fortification wall, similar to that at Ayia Irini, was built around the town; it used large, roughly hewn rectangular blocks of stone (Pl. 8.6). Lively local Middle Bronze Age styles of pottery (Pl. 8.7) were replaced by highly repetitive imitations of Minoan designs.

Trianda

It is clear that Minoans were as interested in the eastern Aegean as in the Cycladic islands. Cretan pottery has now been documented at a number of sites in the southern Sporades and in the Dodecanese, on the islands of Kasos and Karpathos. The most thoroughly investigated settlement with Minoan features in the latter island group is that of Trianda on Rhodes, in the coastal plain northwest of Mt. Philerimos, the acropolis of the Classical city of Ialysos.[27] The site was first excavated early in the twentieth century CE by Italian archaeologists, at a time when the island was a possession of their nation. At Trianda, they found deeply stratified remains of a pre-Mycenaean and Mycenaean settlement. There were fragments not only of Cretan imported pottery and local imitations, but also of painted plaster with Cretan designs.

More recent excavations by Greek archaeologists have considerably clarified the stratigraphic sequence of the site, as well as its extent. It is now obvious that Trianda was a very large settlement, perhaps as big as 12 **hectares** (a hectare is 10,000 sq. m or 2.5 acres); as at Akrotiri, at least some of the buildings are mansions with walls built of ashlar masonry. Peculiarly Cretan architectural features such as the polythyron have been found, as have stone horns of consecration and characteristically Minoan bronze votive figurines.

Prior to the early phases of the Late Bronze Age, many small sites of the Middle Bronze occupied the area covered by later settlement. The pottery from these isolated habitations is decidedly local, and reflects types more characteristic of sites on the Turkish coast than on Crete. On Mt. Philerimos, a deposit of later Middle Minoan vases found long ago also included local non-Cretan wares. As at Akrotiri, Ayia Irini, and Phylakopi, it was in a phase contemporary with LM IA that local traditions entirely gave way to Cretan fashions.

Coastal Asia Minor

Cretan contacts with centers on the western coast of Asia Minor were first established in the Early Bronze Age. As early as the Middle Bronze Age they were significant and deserve to be discussed briefly, because they must figure prominently in any explanation for Cretan interest in the Aegean islands (Chs. 5, pp. 115–16; 9, p. 214). Two archaeological sites have been extensively investigated: one at ancient Iasos in that part of southwestern Turkey known as Caria; the other,

not far to the north, beneath the remains of the Classical Greek city of Miletos.[28] Minoan remains from Iasos come from an area beneath the Roman Agora and include Building F, a structure reminiscent of Neopalatial constructions on Crete. It contained Minoan type conical cups, loom weights, and spindle whorls, as well as Minoan imports (Pl. 8.8). A layer of ash from the volcano of Thera has been identified.[29]

The presence of Minoan finds at Miletos has been known since the beginning of the twentieth century CE, but very recently, south of the historical Athena temple, German excavators have uncovered the remains of a religious shrine of Minoan character contemporary with the Cretan New Palace period (Miletos Phase IV).[30] Ash from the eruption of the Thera volcano was found associated with levels contemporary with LM IA (at the end of Miletos Phase IVa). The shrine complex includes a series of mud brick altars; plaster offering tables sat on a succession of floors. The finds from the shrine are thoroughly Minoan in character and include fragments of frescoes in the Cretan idiom depicting reeds, floral motives, and architecture scenes, all of excellent quality. A carbonized wooden throne is a significant addition to the corpus of Minoan furniture, known otherwise largely from imprints in volcanic ash at Akrotiri. Minoan pottery of domestic types, weights for the warp-weighted loom of Cretan design, fragments of Minoan stone vessels, deposits of fine Cretan pottery (Pl. 8.9), seals, and a Minoan sealing have also been recovered. As on Thera, Melos, and Keos, evidence for the local use of the Cretan script has been recognized: Linear A characters were incised on ceramic vessels.

This very Minoanized settlement, like the communities of the Cyclades and of the Dodecanese, was preceded by a Middle Bronze Age settlement that was decidedly less Cretan in appearance (Miletos Phase III). The earliest altars in the shrine are also of this date. The scanty remains of these levels have yielded some evidence of contact with Crete already in the Prepalatial and Old Palace periods: dozens of sherds of imported Cretan pottery, a Minoan bone seal with an engraved depiction of a wild Cretan goat, and a stone seal also of Minoan type. Of special significance is a sealing impressed by a Minoan seal that seems to indicate the local operation of Cretan administrative practices prior to the New Palace period, as at Ayia Irini. And a potter's kiln of Minoan type is one of the earliest of its kind yet excavated anywhere in the Aegean. There is also much local pottery of kinds characteristic of contemporary southwestern Anatolian sites.

Cretan Interests in the Aegean Islands

Archaeological investigations have obviously yielded much evidence for contact between Crete and the Aegean islands, and would seem to support the legends of historical Greece.[31] But there does not appear to be a one-to-one correspondence between places ruled or visited by Minos and his clan, according to historical texts, and the presence of Minoan artifacts. There is very little evidence for Minoans in the northern Aegean or the Troad, and virtually none for contact between Crete and Sicily. Moreover, an invisible barrier seems to have stretched across the Aegean Sea from Euboea to Izmir. All frequent interaction with Crete was, in fact, south of this line.

In this southern part of the Aegean, then, a Minoan presence persisted throughout the Middle Bronze Age and Cretan influence was all-pervasive in the earliest phases of the Late Bronze Age. Why were relationships of this sort initiated, maintained, and intensified for more than 400 years? The distribution of Minoan finds themselves may provide significant clues. In both the western and eastern Aegean, the islands that have exhibited the most evidence for contact with Crete, and were most fundamentally influenced by it, lie along routes that link Crete to Attica on the Greek mainland and to Miletos on the Anatolian mainland. Of course, other islands in the Aegean also had some contact with Crete. The seaways through Keos and Miletos could not have been the only ones plied by sailors. But the evidence suggests that certain settlements on these routes enjoyed a special relationship with Crete.

Minoan interest in Ayia Irini may be explained in this way, because Keos lies less than 25 km from the Greek mainland. A broad strait separates it from the small island of Makronisos, and from there to Laurion in eastern Attica is only a short trip. On any clear day, Attica is visible from the hilltops around Ayia Irini. Laurion was the source of much wealth for Athens in the Classical period. Mines there were rich in silver and private concessions were leased by the state at a considerable profit. Indeed, the discovery of a particularly rich vein of silver at the time of the wars with Persia in the early fifth century BCE provided Athens with the resources to transform itself into a dominant naval power in the eastern Mediterranean.

Recently, archaeologists have become aware that the mineral resources at Laurion were important also in prehistoric times (Chs. 3, p. 61; 4, pp. 86, 90).[32] Already in the Neolithic period silver was being mined, and later copper was also widely exported. Lead isotope

analysis (Ch. 1, p. 10) has permitted the determination of the sources of these metals, suggesting that silver and copper from the mainland mines at Laurion were reaching Crete in the Middle and Late Bronze Age. Byproducts from the working of silver ore from Laurion have been found at Ayia Irini and Phylakopi. Artifacts of lead from Laurion are common at both sites, as is the artificial mineral called litharge (yellow lead oxide), a consequence of the extraction of silver from silver-rich lead ore.

Metals, then, are commodities that likely encouraged Minoans to sail north through the Aegean islands toward Attica, and it is likely that they were a motivating force in encouraging travel to Miletos. There are also goods that Minoans could have acquired in the islands themselves. Emery, an abrasive, is found on Naxos and was used in the manufacture of stone vases in Crete. Obsidian, a volcanic glass, comes from the island of Melos (Ch. 3, p. 48). It is the sharpest of all natural materials and yields blades as well as other cutting and scraping instruments (it is, in fact, still preferred to steel scalpels by some surgeons). Neither of the two quarries on Melos is near Phylakopi, however, and there is no archaeological evidence to suggest that the prehistoric inhabitants of that island took measures to guard this resource. It has, in fact, been suggested that obsidian was largely free for the taking and that Cretans and others may have come to Melos to gather it on their own.[33]

The prospect of available land may also have attracted Minoans to the islands of the Aegean. The New Palace period on Crete was a time of considerable expansion in settlement. By its end, farmsteads, palaces, and villas seem to have occupied virtually all fertile areas of the island (Ch. 6, pp. 141–6). If the New Palace period was a time of accelerated population growth, then relatively vacant Aegean islands may have offered real opportunities to Minoans. The Middle Bronze Age in the Cyclades, for example, was characterized by a highly nucleated pattern of settlement, in which large parts of islands, or even entire islands, were dominated by a single settlement. In the earliest phases of the Late Bronze Age, the countryside of those islands nearest to Crete filled up with new settlements. On Thera, the pattern of habitation became much more dispersed and similar to that on Crete. This may also have been the case on other islands in the southern Aegean such as Karpathos, Kasos, and Rhodes. On Melos and Keos, however, the focus on a single, large, dominant center persisted. Phylakopi and Ayia Irini were larger in the New Palace period than they had been in the Middle Bronze, but it is Akrotiri and Ialysos, nearer to Crete, that increased significantly in size.

The Minoans probably were not attracted to the Aegean Sea for any single reason. As already has been suggested, some islands probably served as an outlet for excess population in Crete. Some surely also profited because of their location as transit stops between Crete and nearby mainlands. Natural resources local to the Cyclades were also desirable. All of these factors must have reinforced each other in encouraging ever more interaction between Crete and the Aegean. This exchange in turn reshaped Cycladic society to such an extent it became virtually unrecognizable as its former self.

The Explanation of Cultural Change

Several conclusions should be drawn from the review of archaeological evidence presented in this chapter. Cretan products began to be imported to the Aegean islands in significant numbers from the start of the Middle Bronze Age. Large quantities first reached the Anatolian mainland, as they also did the Greek mainland and the Cyclades, in the phase immediately preceding the rise of the Minoan palaces (Chs. 5, pp. 115–16; 9, pp. 213–14). The recent, unexpected discovery of Minoan sealings on Samothrace demonstrates that Cretan products also reached much more distant locations, but present evidence suggests that islands of the central Aegean were not in as frequent or intensive contact with Crete, and that exchange with them did not begin as early as with Rhodes, Thera, Melos, and Keos. The settlements on these southern Aegean islands, though, were profoundly affected by their close communication with Crete. Particularly in the LM I period, local artistic and craft traditions gave way to Cretan fashions and methods of doing things. Cretan influence penetrated virtually every aspect of life, from potting to weaving to architecture to religious practice.

In some instances, it seems likely that members of factions who competed for control of Aegean centers adopted the latest Cretan fashions, in a desire to gain prestige. The earliest evidence for an Aegean elite appears archaeologically about the time that Minoan influences thoroughly engulfed Ayia Irini, Phylakopi, Akrotiri, and Ialysos. The houses built at these sites at the beginning of the Late Bronze Age were decorated and furnished in Minoan styles. Storage facilities in large buildings such as House A at Ayia Irini or the mansion at Phylakopi may have held surplus goods, including agricultural products that ambitious islanders accumulated so that they could engage in trade

with Crete. The adoption of the Minoan writing system and sealing practices would have facilitated these efforts.

But who were these elite people? Were they in origin immigrants from Crete? Were they families local to the Aegean? Were some of them of mixed ancestry, as the traditions concerning the Euxantidai on Keos suggest? It cannot be demonstrated that it was the Cretan language that was written in Linear A at all of the Aegean island sites. But if even it could be, the possibility remains that those who were native to many centers in the southern Aegean spoke the same language as the Minoans, because they were probably descended from colonists who had originally entered both areas from Asia Minor (Chs. 3, pp. 51–3; 4, p. 79; 5, p. 107). Alternatively, the Minoan language might have been used as a *lingua franca* (a language of trade) and might not have been the "language of identification" employed at home by the residents of all these communities. Trade would have been facilitated also by the adoption in the Aegean of a common system of measurement. From Keos to Miletos, sets of weights calibrated to a Minoan scale have been excavated. It is a plausible suggestion that the fractional units reflect the use of this weight system for measuring wool and for the exchange of goods in larger international exchange networks in the eastern Mediterranean.[34]

Did Aegean craftsmen emulate the practices of Minoan peers from a desire to compete with Cretans in trade? Perhaps, but certain changes in material culture, such as the adoption of Minoan tools for weaving, may most easily be explained by positing the actual migration of craftsmen or craftswomen. It seems that in the Middle Bronze Age the warp-weighted loom, present in Crete and in Asia Minor already in the Early Bronze Age, was not used at Phylakopi or Ayia Irini (Pl. 8.8). An entirely different form of equipment may have been employed, such as a ground loom of a sort known from Egypt and elsewhere. The widespread adoption of (Minoan) clay loom weights in the New Palace period thus signals the importation to the Aegean of an entirely new technology.

Another sweeping change in the technology of production occurs in the manufacture of ceramics. In the Middle Bronze Age, locally produced pottery was mostly handmade. By the beginning of the Late Bronze Age, not only was the majority of pottery thrown on the wheel, but also the apparatus used was identical to that in Crete. Stylistic innovations accompanied this shift in technology. Patterns in painted decoration were largely derived from Cretan antecedents. Shapes were predominantly Minoan in origin. Traditional styles and shapes of the

Aegean islands were eventually abandoned. Because there is generally a fundamental conservatism in the habits of traditional craftsmen, these shifts in ceramic and cloth production may well signal the arrival of craftsmen from Crete, rather than the reschooling of natives.

How many Cretans lived in Aegean centers? It seems improbable that any of the settlements we have examined in this chapter was refounded afresh as a Cretan "community colony", and the process of Minoanization must have been gradual. But it remains entirely plausible that significant numbers of individuals came from Crete to live in some island centers and in previously unsettled areas, and that the expansion of settlement in the southern Aegean islands reflects immigration of Minoan farmers. The trick for Aegean prehistorians is to devise a means of testing this hypothesis with purely archaeological evidence.

What conclusive proof of the presence of a Cretan should one expect to find in the archaeological record? Cooking equipment of Cretan style suggests that changes occurred in the way in which food was prepared: at Ayia Irini, for example, the Minoan tripod cooking pot was introduced. Is this indicative only of a growing local eclecticism in gastronomic preference? Or does it mark the arrival of Cretan immigrants who demanded that food be prepared in a familiar manner? Large goblets on pedestals gave way to small Minoan teacups, straight-sided cups, and conical cups (Pl. 8.10). Different drinking habits? Changes in rituals in which drinking was involved?

Rather than continuing to pursue such lines of investigation, it may be more fruitful to examine more carefully what we are actually trying to define when we speak about the presence of Minoans in the Aegean. Did Cretans and Aegean islanders possess immutable characteristics that distinguished the two groups in all times and places, and that were passed unchanged from one generation to the next? This can hardly have been the case. What we call a "Minoan" person is a cultural construct that emerged in response to particular political, social, and economic experiences that shaped the people of Crete as they grew in numbers and expanded throughout the island. The Minoanization of the Aegean could be viewed as an extension of this process. Certain groups of individuals in a heterogeneous local population had previously chosen to express their identity in a variety of other ways. As a result of intense contact with Crete in the New Palace period, they came to express themselves and behave like Cretans. How can we hope to tell if they would have been accepted as such by Minoans from Crete?

A still more difficult question concerns the political status of Aegean island centers. Did particular Minoan palaces on Crete hold

sway over them? Many Aegean prehistorians believe this was the case.[35] Crete in the New Palace period was the most densely populated, the most urbanized, and the most politically stratified civilization yet to arise in the Aegean. The sailing ship had been introduced to the island already by the Old Palace period, and there is evidence of trade between Crete and older civilizations of the Near East, in particular Egypt, from early in the Middle Minoan period (Chs. 5, pp. 113–14; 9, p. 214). It is not hard to imagine that authorities in a Cretan palace could forcibly have imposed their will abroad, had they so chosen. It has, in fact, been suggested that an archaeologically recognizable destruction at Phylakopi at the end of phase II was the result of a Cretan raid. But even where there exists the possibility of direct intervention of this sort, were these places subsequently administered directly from Crete? Without documentary evidence, can we ever answer this question? It may be a safer strategy to abandon any attempt to write a political history for this episode in Aegean prehistory and to concentrate our efforts on explicating the processes by which, in the New Palace period, Crete, the Cycladic islands, the Dodecanese, and southwestern Turkey became parts of the same highly integrated social and economic system.

The Aftermath

Not so long ago, it was widely believed that the New Palace period in Crete was brought to an end by the eruption that swallowed Akrotiri and the other settlements in the island in a rain of volcanic debris. It is now clear that this was not the case. The volcano did not erupt as late as LM IB, but in the later LM IA phase (Ch. 1, p. 6).[36] The catastrophe devastated settlements on Thera and had an impact on other parts of the Aegean and eastern Mediterranean. A deep stratum of ash has been excavated at Trianda, elsewhere in the Dodecanese, and even in the remains of prehistoric Miletos. Strong tsunamis seem to have followed an explosion that had a force perhaps ten times that of the eruption of Krakatau in 1883.

Following the eruption, contact between Crete and the Aegean continued, however, and in some places may have been even stronger than before. Thera was obviously not an irreplaceable link in the chain. Frequent interaction between Crete and the Aegean did not cease until the end of the LM IB phase, ca. 1450 BCE. The Aegean then turned its back on Crete, or Crete its back on the Aegean. Over the

next two centuries its islands would become as thoroughly "Mycenaean" in their material culture as they had once been Minoan (Ch. 14, pp. 365– 9).

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Notes

1 I am grateful to John Bennet and Cynthia Shelmerdine for their perceptive criticisms of earlier drafts of this chapter, to Barbara and Wolf-Dietrich Niemeier for permission to summarize the results of their excavations at Miletos from unpublished reports, to Nicoletta Momigliano and Amy Raymond for supplying photographs, and to Sarah Lima for assistance in the preparation of images.

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9: Minoan Trade

Philip P. Betancourt

Introduction

Cretans have always looked to the sea. Crete is the largest of the Aegean islands, and it has many fine harbors. The mountainous landscape that causes the many indentations at the coast and creates the favorable shelters for shipping also makes travel by land difficult, especially for the transport of heavy goods. As a result, even trade within Crete itself has often used the sea instead of moving overland.

The predecessors of the people we call the Minoans had to travel by sea to settle the island. They found ample room for agriculture and for the raising of animals, but their new homeland lacked many of the natural resources they required; maritime commerce to acquire needed commodities was an easy solution for people who were already seafarers. It is not surprising that the Cretans began obtaining raw materials and other items overseas almost immediately, and that they would continue to regard seafaring as an integral part of their lifestyle.

The Neolithic and Early Minoan Periods

The earliest known evidence for settlement on Crete comes from Knossos, from the Early Neolithic period (Ch. 4, p. 80).[1] The site in north-central Crete was first settled in the seventh millennium BCE, and it was already an important town during the Neolithic period; in the Late Bronze Age, it would become the largest palatial center in Crete. Obsidian from the island of Melos was well known to the Neolithic Knossians, and it was regularly brought into Crete either by exchange or by voyaging to the Cycladic island to obtain pieces of the useful volcanic glass.[2] Other evidence that the Neolithic people of Knossos

acquired foreign objects and materials includes the presence of axes made of nonlocal stones and the use of pottery made in clay fabrics whose materials do not naturally occur near the site. Probably trade was already a common and continuous part of Cretan life.

In this early period, as in later times, it is hard to pinpoint exactly the mechanisms used for the movement of goods. It would be wrong to try to make too much of a distinction between trade within Crete itself and trade to the nearest islands to the north, or even between the terms "local" and "foreign." In the first place, ships might stop at several places on a single voyage, including ports both on Crete and elsewhere; they also might pick up goods that had already been transported by someone else. Several different types of exchange probably operated simultaneously: for example, down-the-line trade, in which recipients of goods trade them to others, and directional trade, with specific destinations.[3] In addition, we have no way of knowing if a specific item was exchanged, given as a gift, stolen, borrowed, or brought to a new location by someone who planned to settle there.[4] A commodity could have traveled both by sea and by land over a period of weeks or months or even years in order to get from its point of origin to its place of ultimate burial under the soil. One can only try to identify items that seem to have originated at different places than where they are ultimately discovered, and to suppose that, at least occasionally, movement of commodities to a new location would involve receiving something in return. Finally, ancient perceptions of distinctions between social and ethnic groups are so difficult to assess that we can never be sure which localities would have been regarded as "foreign."

A few of the products imported into Crete in the period between the Aceramic Neolithic and the Final Neolithic must be regarded as rare and unusual curiosities rather than as staples. They include a copper celt (a flat axe that was hafted by slipping it into a slot in the handle) found at Knossos[5] and a pair of silver objects from a tomb near Amnisos. The silver pieces, a bead and a schematic pendant probably representing a female figure (Pl. 9.1), are particularly important.[6] The pendant has strong connections with the northern Balkans, suggesting ties with northern areas beyond the boundaries of the Aegean.[7]

A new situation begins in the Early Bronze Age. Across the Cycladic Islands north of Crete, a cultural assemblage called the Kampos Group has been identified by a distinctive set of clay vases, metals tools and weapons, jewelry, marble figurines, and other objects (Ch. 3, pp. 60–1).[8] The cultural assemblage was used at a number of sites along the coast of Greece as well as in the Aegean Islands, and it seems to

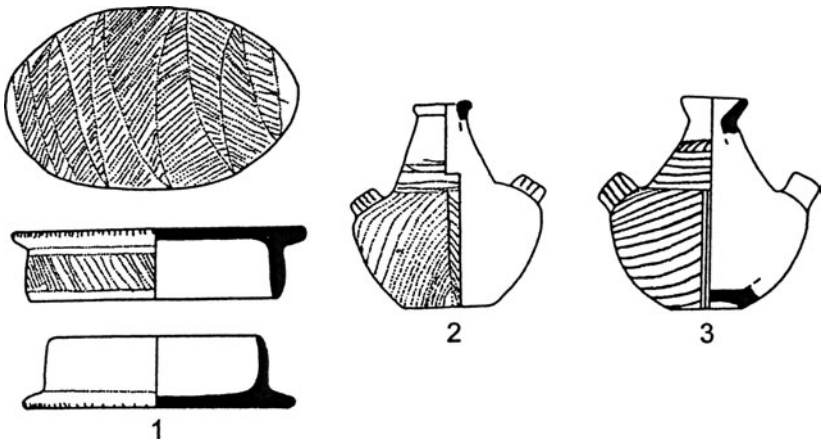

figure 9.1. Incised Cycladic pottery from Ayia Photia, EM I to EM II transition, at 1:3. Courtesy of the author.

represent a group of communities that were engaged in a brisk trade that traveled by sea. The date, which in Minoan terms lies at the transition between Early Minoan I and II, should be within the first half of the third millennium bce.

The Kampos Group represents the beginning of heavy and continuous overseas Minoan trade. The largest Cretan settlement of Cycladic people using this assemblage was at Ayia Photia, east of Siteia (Ch. 4, pp. 86–7). The site consists of both a settlement (unexcavated) and a large cemetery of over 260 tombs.[9] More than 1200 imported clay vases come from the cemetery, buried with a people who used Cycladic tools, jewelry, marble bowls, and clay vases; the latter two were imported both as containers for perishable goods and as pottery for its own sake. The clay vases include spherical, spool-shaped, and conical boxes with lids called **pyxides** (Pl. 9.2; Fig. 9.1 no. 1), small incised bottles (Fig. 9.1 nos. 2 and 3), multiple vases called *kernoi*, chalices with conical bowls and high bases, flat bowls (or lids?) of unknown use called frying pans (Pl. 3.1), and many other shapes.[10] Accompanying the pottery pieces are blades made of Melian obsidian, copper daggers, saws, pins, and chisels, and marble bowls and other objects. A silver pendant is in the shape of a small quadruped. In addition to their many imported Cycladic wares, the residents of Ayia Photia also traded with Cretan sites, some quite distant from their own community. Objects from the tombs include pattern-burnished Pyrgos ware chalices (Fig. 4.1) from north-central Crete, jugs painted with red linear designs from the Mesara Plain in

south-central Crete, and several objects whose place of manufacture is not known. One black-burnished jug from Anatolia is present as well.

One cannot know if trade was the main motivation in the foundation of a foreign settlement such as Ayia Photia, because land and agriculture may have been a more important incentive, but increased trade was certainly one of the results. Beginning at the time of the Kampos Group, trade between Crete and the Aegean islands became frequent and routine, and objects from the Cyclades were widely dispersed across northern Crete.

Cycladic trade continued into the middle phases of the Early Bronze Age, in the period of the Keros–Syros Culture, corresponding to EM II in Crete.[11] In fact, this phase has often been regarded as an "International Period," when exchange flourished in the Aegean as it never had previously. One of the most easily recognizable pottery shapes, the sauceboat, occurs throughout the Cyclades and the EH II cultures of the Greek mainland as well as in Crete (Fig. 2.3; Chs. 2, p. 24; 3, p. 64; 4, p. 89).[12]

Copper seems to have been one of the most desirable of the products imported into Crete. It was evidently brought onto the island both as finished tools and as ore that could be smelted on Crete itself. Excavations at Chrysokamino, an Early Minoan smelting workshop in eastern Crete, provide evidence for how the craft was managed.[13] Chrysokamino imported malachite, azurite, and chrysocolla, which are secondary copper ores, and smelted them locally. Lead isotope analyses of prills (small masses of copper) in the slag (Ch. 1, p. 10) indicate that the ores probably came from Kythnos or Laurion where we know that mining was already a major activity, because copper from these places was the raw material used for many Cretan tools and weapons.[14] After it was smelted (either in Crete or elsewhere), the raw copper could be sent to small workshops to make useful articles. Tin was not yet reaching Crete, and the main metal was arsenical copper. The Minoan metal smiths would use clay crucibles, such as an example from Ayia Photia, and they could either melt the metal received from the smelting site or use old worn-out tools, because copper could always be reused.

Metal was rare enough to be highly valued. It was a useful form of wealth because its ownership could be transferred to someone else. Unlike most other forms of portable Early Bronze Age wealth, such as textiles, animals, or agricultural produce, metal did not wear out to the point where it was useless, grow old and die, rot or spoil, or get

eaten by insects or small animals. It had a value as a material, even if it was broken or dulled from use, and after melting, it again became an anonymous and useful commodity. Unlike materials such as obsidian, it could be used repeatedly. It could be displayed for its prestige value, handed down from one generation to the next, traded at a distance, or buried and removed from use. It must have greatly encouraged the accumulation of wealth and the exchange of commodities at a distance.

Other items were also available through trade with the north. Obsidian continued to be acquired. Gold, imported into some parts of Crete in sufficient quantities to produce a whole new class of jewelry,[15] may have come from Anatolia (but its absence in the Cyclades indicates a likelihood that it did not arrive in Crete from the north; Chs. 3, p. 61; 4, p. 96). Marble figurines, a regular feature of the Cycladic Early Bronze Age (Ch. 3, pp. 48–9, 62; Fig. 3.1), appear in Crete in substantial enough numbers to suggest that ideas traveled along with the commodities needed for daily life.[16]

The western Mediterranean was not completely unknown to the people of the Aegean,[17] but trade in this direction does not appear to have been a regular feature until later in the Bronze Age.

Transitional Early Minoan IIB/III to Middle Minoan IA

The trade between Crete and the north that flourished during the middle phases of the Early Bronze Age was interrupted at the end of the period, though whether the interruptions in settlement patterns that characterized the Cyclades were also reflected in Crete is not yet proved (Chs. 2, p. 36; 4, pp. 97–8; 5, p. 109). This was the time of the Kastri Group in the Cyclades (Chs. 2, pp. 35–6; 3, p. 61; 4, p. 94), a series of communities using artifacts with strong Anatolian connections. Chronologically, the Kastri Group lies at the end of the Keros–Syros Culture in the Cyclades, which should be late in EM IIB or transitional EM IIB/EM III in Minoan terms (Ch. 1, p. 3; Fig.1.1). The arrival of this cultural phase was accompanied by new foundations and by several destructions of older communities in both mainland Greece and the islands.

This period coincides with the beginning of the tin trade in the northern and central Aegean,[18] and the newcomers who used the Kastri Group artifacts probably had a hand in its spread, but very little of the new trade reached Crete. The south Aegean island seems

to have become somewhat isolated, and its trade with the north was partly interrupted, though it did not end completely. Crete continued to look to the north for a few products, such as the copper ore imported into Chrysokamino in EM III/MM IA, the main period for this metal-smelting workshop,[19] but it also began expanding in other directions.

Trade with the east seems to have increased.[20] A few objects from Egypt and western Asia occur in tombs that begin well back in the Early Bronze Age, but the long use of most Cretan tombs makes it difficult to assign secure dates to the find-spots for most of these early objects, and some or all of them may have been traded to Crete well after they were made. Only a few items from Cyprus or elsewhere in the Levant turn up in Minoan settlements.[21] Among the Egyptian pieces are several stone vases, a few Egyptian seals, and enough ivory to make a number of objects. Except for the ivory, these objects appear to be occasional pieces rather than the remains of a systematic and continuous exchange network, and it has been suggested that the traffic was probably controlled by a very few persons.[22] The ivory, on the other hand, was imported as a raw material. Hippopotamus ivory seems to be the main class. It has been shown to date mainly from EM III and later, so it belongs to the period after the interruption of trade to the north.[23] It was most likely brought in mainly through the Mesara, and it was used for carving seals, pommels, figurines, and a few other objects.

Middle Minoan IB to II

Early in the second millennium BCE, the Cretans built the architectural monuments usually called the Old Palaces. The sophistication of these large buildings constructed around rectangular courtyards suggests an earlier architectural development, but the extensive excavation that leveled the building sites before work began removed earlier traces (Ch. 5, p. 111). The palatial systems centered at these buildings expanded the Minoan economy in many ways, and acquisition of foreign goods played an essential part in the new palatial ambitions. The palaces must have been the main force in a vigorous effort to increase trade.[24] With the north still recovering from the destructive events that coincided with the arrival of the Kastri Group, the Minoans looked increasingly to the east. The arrival of Minoan pottery vessels and other products in eastern ports is a strong hint of the new exchange pattern (Fig. 9.2; Pl. 8.9; Ch. 5, pp. 128–9).[25] Written records from the Near East also provide

figure 9.2. Kamares ware bridge-spouted jar from Byblos. After P. P. Betancourt, "Middle Minoan Objects in the Near East." In *The Aegean and the Orient in the Second Millennium*, edited by E. H. Cline and D. Harris-Cline. Aegaeum 18. Liège and Austin: Université de Liège and The University of Texas at Austin 1998, pl. 2b. Courtesy of the author.

testimony for the new emphasis on trade in this direction; these records mention Caphtor, which is almost certainly Crete.[26]

Crete had a number of items to offer in return for foreign commodities. Among the island's agricultural products were olives and olive oil, wines, other foods, spices and herbs, textiles, and resins.[27] Manufactured goods were becoming increasingly important, and the economic goals of the palaces were undoubtedly designed to increase productivity. Olive oil could be made into perfume and unguents, grapes could be made into wine, and lumber could be made into wooden products. Minoan Kamares ware, without equal among Middle Bronze Age ceramic vessels, was a desired product beyond its use as a container (Ch. 5, pp. 121–3; Fig. 9.2; Pl. 8.9).[28] Woolen textiles were a Minoan specialty (Ch. 6, pp. 160–61),[29] and purple dye made from the murex shell was also produced in the Aegean.[30]

The acquisition of metals seems to have been one of the Cretan priorities. Lead isotope analyses of copper and bronze objects from the Middle Minoan period indicate that Aegean sources still provided most of the copper used in Crete,[31] so tin may have been one of the main products needed from the Near East. Documents from Mari in Syria indicate that this city was an important stopping point on the tin route that moved from east to west.[32] The metal probably reached Crete

through ports on the Syrian coast such as Ugarit, from which it traveled westward along the same route that brought obsidian from Yiali and other products from the eastern Mediterranean to Crete; its ultimate source is not known, though Afghanistan has been suggested.[33]

Cyprus must have acted as an important way station for Aegeans on the way east in most periods of the Bronze Age.[34] Objects from Crete appeared in Cyprus at the beginning of the Middle Bronze Age, and Cypriot objects in Crete began to increase in numbers at about the same time. The role of Cyprus as an intermediary with the areas farther to the east may have already begun during this period. The Minoans imported many Near Eastern items in addition to metals; even an occasional sealstone found its way to the island.[35]

Egyptian connections also increased at this time.[36] Among the raw materials that may have come to Crete from Egypt were hippopotamus ivory, elephant ivory, semiprecious stones including cornelian and amethyst, and gold. Other items such as monkeys and other wild animals, stone vessels, faience beads, scarabs, and exotic woods were probably imported as well. Most of these items must have come into Crete through ports on the south coast, such as Kommos, because many of them have been found in the Mesara tombs. Their absence from the Cyclades (where gold, scarabs, ivory, and faience are extremely rare at this time) argues for a southern route to Egypt rather than for exchange by way of the ports on the north of Crete.

Middle Minoan III to Late Minoan IB

During the New Palace Period, which flourished from just after the destructions of MM IIB until the destructions of LM IB, magnificent palatial buildings were built at Knossos, Phaistos, Malia, Zakros, and elsewhere (Ch. 6, pp. 141–2, 146–9, Figs. 6.1–5). A unified style of pottery spread across much of Crete (Ch. 6, pp. 152–4),[37] and the fortifications that had been built in the Middle Bronze Age were no longer needed.[38] All of Crete was at peace, perhaps under the rule of Knossos (Chs. 6, pp. 150–52; 7, p. 178), and the wealthiest Minoan citizens were free to build luxurious villas in many small villages as well as in the larger towns (Ch. 6, pp. 143–6, 149). The evidence does not support the myth of villas standing alone in the countryside; surveys around "isolated" villas have discovered villages.[39]

The Minoan domination of the Aegean remembered in Classical times as the "Minoan Thalassocracy" probably dates to this period

(Ch. 8, pp. 187–8).[40] Cretan influence can be seen across all of the Aegean, including the coasts of Greece and Anatolia. In turn, coastal Minoan stations in Anatolia, including Miletos and Knidos, are probably responsible for the occasional Anatolian object in the Aegean.[41] Whether or not the thalassocracy represented political control has been fiercely debated, but few would argue that economic influence and mutual trade played a major role in Aegean societies at this period, and that Crete provided the stylistic influence and technological skill for the rest of the region.

Trade and the exchange of ideas spread Minoan culture across the Aegean. At Mycenae, Grave Circles A and B were the burial sites of the local elite. The many Minoan objects in them, including vessels of gold, silver, and bronze, fine jewelry, gold disks, bronze tools and weapons, and other fine objects, demonstrate the high quality of luxury goods produced by Minoan craftsmen, and they also suggest the possibility that among the exports were the craftsmen themselves (Chs. 10, pp. 251–2; 11, pp. 260–61). The objects include Minoan exports, but they also include items with a mixture of Minoan and local Mycenaean traits, made by craftsmen who were one step removed from their Cretan stylistic origins. Elsewhere in the Aegean, some of the communities, notably on the islands of Thera and Kythera, have so many Cretan traits that they have been occasionally regarded as Minoan colonies (Chs. 4, p. 96; 5, p. 128; 7, pp. 168–9; 8, p. 193).[42] Other Aegean sites preserve more of their local ways, but they still have extensive evidence for Cretan imports as well as Minoan-related styles in pottery, wall paintings, stone vases, and other aspects of their material culture (examples include Ialysos on Rhodes (Ch. 8, p. 198), Phylakopi on Melos (Ch. 8, p. 197), Seraglio on Kos, Ayia Irini on Keos (Ch. 8, pp. 193–6, 200), and a site on Telos).[43] The Minoan presence extended to several sites on the coast of Anatolia as well (Ch. 8, pp. 198–201).[44] Obsidian from Melos was still being imported in large amounts as raw material for manufacture into tools in Cretan workshops.[45]

The evidence from several of these sites indicates that Minoan craftsmen and artists moved away from Crete and established workshops elsewhere. Especially in regard to wall painting, the evidence for a diffusion of Cretan styles involving the movement of personnel (not just stylistic borrowing) is very compelling.[46] Although the social status of the craftsmen and artists is by no means clear in this period, the possibility is strong that they lived in service to higher political authorities, and that they could themselves be objects of trade. For the next period, the Linear B documents leave little doubt that a number of craftsmen

and craftswomen were under the complete control of the palaces (Ch. 12, pp. 303–6).

Aegeans enjoyed the benefits of several wide-ranging trade networks that linked Crete and the rest of the Aegean with regions as far east as Mesopotamia and as far west as the western Mediterranean. The dynamics of these networks are still unknown, and we do not know which routes were traveled by Cretan ships and which were used by others. We can be certain, though, that by one means or another, the Minoans engaged in substantial amounts of shipping. As in previous times, the palaces may have taken the lead in international exchange involving Crete, joining a complex pattern of travelers consisting of many nationalities and ethnic groups.[47]

As in the previous period, trade with the Cyprus and the Levant remained important.[48] Hittite and Egyptian goods may have reached Crete through this route. Cypriot pottery has been found at a number of Late Minoan I sites, including Gournia, Zakros, Kommos, Malia, Pseira, and elsewhere.[49] The distribution, with isolated vessels at many sites rather than many vessels at one location, contrasts significantly with the picture in Cyprus, where a Minoan presence at Toumba tou Skourou is represented by a large number of Minoan objects.[50] The contrast may be significant, as it may indicate a Minoan emporium in Cyprus charged with overseeing trade between the two destinations. The depth of Cretan influence in Cyprus in this period is proved by the debt to Linear A of the local Cypro-Minoan script.[51]

Only a few Syro-Palestinian objects come from MM III to LM I contexts in the Aegean.[52] They suggest some increased contact in this direction, but much of the trade may have been in perishable goods or in raw materials, and its volume was clearly not as great as the trade within the Aegean itself. Among the possible imports from this route are glass beads and other objects of ultimate Mesopotamian origin, ivory from either the elephant or the hippopotamus, cornelian and other forms of quartz, lapis lazuli, and other exotic materials.[53] Ostrich eggs also arrived, but one cannot be sure whether ostrich eggs were imported from Egypt or the Syro-Palestinian area.[54]

Contacts with Egypt also increased at the beginning of the Late Bronze Age. They can be traced through written records, artistic representations, objects from Crete found in Egypt,[55] and Egyptian exports to Crete. Almost all of the Egyptian objects found in Crete come from the end of the period, from the destruction levels that mark the interface between LM IB and LM II.[56] In Egyptian terms, this is the

Eighteenth Dynasty, within the fifteenth century BCE (Ch. 1, pp. 5–6; Fig. 1.2). In Egyptian texts we find references to *Kft(j)w*, usually written as Keftiu, probably the Egyptian name for Crete (Ch. 6, p. 157).[57]

Among the items that may have been imported from Egypt were elephant tusks, ostrich eggs, faience objects, and stone vessels. Hippopotamus ivory is another possibility. Whether these items all came originally from Egypt and whether (if they did) they went directly from Egypt to Crete or moved through another port, for example in the Levant, is uncertain. A strong case can be made for Syria as an exporter of ivory during the Late Bronze Age.[58] The many early Egyptian stone vases and other objects found in Late Minoan contexts may also mean that a trade in the contents of looted Egyptian tombs existed in this period.[59]

In return, Egypt could have used a number of Cretan exports. Theban tombs provide illustrations of tribute bearers with Aegean characteristics bearing a number of products: textiles, metal vessels, copper ingots, and other items (Ch. 6, p. 157).[60] To this list one could add spices, medicines, hides, oils and unguents, wine, perfumes, and the other traditional Cretan products. Copper and tin were imported as raw ingots of the separate metals. The copper, cast in large pillow-shaped ingots for easy shipment by sea (Pl. 9.3), was then cut into chunks and melted in crucibles. It was regularly alloyed with a few percent of tin in order to improve the casting process. The LM I copper ingots found in Crete have a different isotope pattern from the copper used toward the close of the Late Bronze Age, suggesting that the later Cypriot source was not yet being exploited.

Late Minoan II to III

In the later Bronze Age, some Cretan rulers at least spoke Mycenaean Greek. The unfortunate misnomer "Postpalatial" for the period is contradicted by the Linear B documents, which demonstrate a clearly palatial economy organized and managed by an extremely affluent elite. Wealth increased greatly, mainly because of several new policies designed to enhance production, especially for foreign exchange. The period was punctuated by a major destruction at Knossos that occurred shortly after the beginning of LM IIIA2, but the Knossian state recovered, and it remained important until LM IIIB1 or later (for a somewhat different view, see Ch. 12, pp. 310–18), although rival political entities

that were probably more independent than in the preceding period now functioned at Chania, Ayia Triada/Kommos, and probably elsewhere.

After the destruction of LM IIIA2, the independence (or partial independence) of the outlying Cretan regions resulted in several changes (Ch. 12, pp. 316–18). Some of the specialized elite burials at Knossos (including the Warrior Graves, Chs. 10, p. 252; 12, p. 315) were no longer built. Pottery was now characterized by regional styles. New efforts in trade resulted in some different patterns, including the importation of many eastern luxury goods: seals and beads of faience or frit, faience vessels, and north Syrian ivories, many of them destined for use as grave goods. At the south, Kommos, the port for Ayia Triada and the rest of the Mesara, imported large quantities of Cypriot and Syro-Palestinian goods, and even a few Italian and Anatolian products.[61]

Substantial information is available for this period because of the excavation of three shipwrecks from this time, at Uluburun, Cape Gelidonya, and Point Iria (Ch. 14, pp. 364–5).[62] Another important factor is the decipherment of the Linear B tablets (Chs. 1, pp. 11–12; 12, pp. 312–18). These documents, which occur at both Knossos and Chania, testify to the vast amount of goods now available for trade. They record 100,000 sheep supervised by Knossos alone, with most of the livestock probably being raised to provide the wool for Late Minoan textiles (Ch. 12, pp. 305–6).[63] One broken tablet lists at least 1,800 stirrup jars, presumably the contents of a single inventory (Fig. 9.3; Ch. 12, p. 304). These anecdotal documents are vivid proof of the scale of the goods available for Minoan foreign trade, and one need only be reminded that the ship wrecked at Uluburun carried 10 tons of copper,[64] in addition to its other cargo, to understand the profits that were now possible through shipping by sea. As in earlier times, raw materials seem to have formed the largest group of imports into Crete. The earlier pattern – importing raw materials and exporting finished goods plus local organic products – seems to have continued, but on a larger scale than before.

New emphasis on relations with Cyprus and the Syro-Palestinian coast is apparent in several ways. Imports of Cypriot pottery (Pl. 9.4) are more numerous than ever before; they are concentrated at selected sites, notably the port town of Kommos, suggesting that selected places acted as gateway communities to bring in goods from overseas.[65] In addition to the goods previously shipped to Crete, Cyprus provides evidence for opium, new types of pottery, and many luxury items.[66]

Copper and tin were both needed in large amounts to support the bronze-working industry. The evidence from lead isotope studies

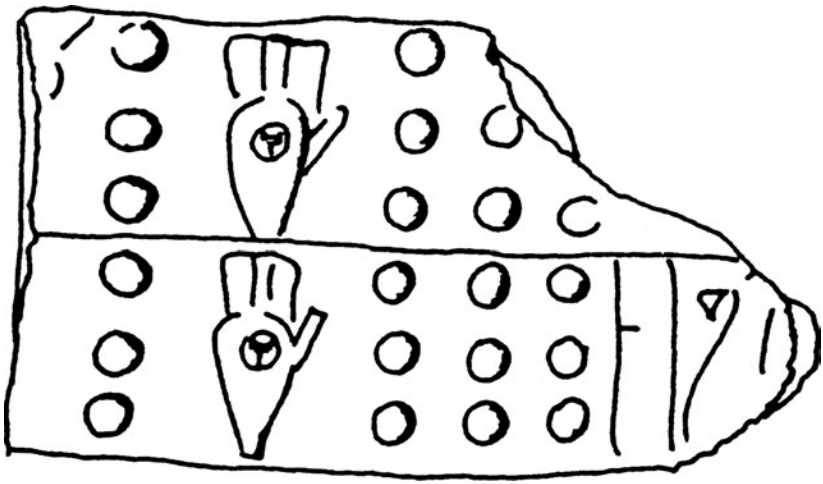

figure 9.3. Linear B tablet from Knossos (KN K 700) listing 1,800 stirrup jars. After P. P. Betancourt, *The History of Minoan Pottery*. Princeton: Princeton University Press 1985, Fig. 1.5. Courtesy of the author.

suggests that most of the copper ingots found in the Aegean and elsewhere were made of copper that originated on Cyprus, although some writers have suggested that non-Cypriot ships could have carried the metal.[67] The origin of the tin is still unknown. The copper ingots, often mistakenly called oxhide ingots because their shape happens to resemble that of an oxhide, weighed about a *talent* (29 kg or 64 lb) each, whereas the tin ingots were sometimes the same size and sometimes smaller. Neither class had a standardized size or weight.

In spite of the evidence for the source of the copper ingots, many bronze tools found in Crete have lead isotope patterns that match Laurion rather than Cyprus, suggesting that the Aegean copper sources were still important.[68] The contrast with the isotope pattern of the ingots (which come from Cyprus) suggests that Cypriot copper was shipped to the Aegean but was uncommon in Crete itself, which would be surprising.[69] The analysis measures the lead that is present, not the copper itself, so several possible explanations exist: the analyzed artifacts were made from copper imported into Crete in MM III/LM I or earlier, before Cyprus became important as a source for Minoan copper; ancient crucibles were contaminated with Laurion lead; lead was a deliberate addition in the Minoan alloying system; Cypriot ingots were part of a specialized exchange system whose products were intended for export, not local consumption; or the database of LM II–III Minoan artifacts

is too small to be accurate, and both Laurion and Cyprus furnished copper for Crete.

Objects from the Syro-Palestinian coast have a distribution pattern like that of objects from Cyprus.[70] They are concentrated at Kommos, underscoring the role of this large port in dealing with the Near East. The list of Syro-Palestinian objects is long, and includes some luxury goods (cosmetic containers, boxes, seals, and other small items) as well as many Canaanite amphoras. This type of amphora (Pl. 9.5), a common transport vessel made in several places in the eastern Mediterranean, carried a wide variety of products. The known trade with the Syro-Palestinian coast is extensive enough to suggest that some of the materials whose origin is uncertain probably came from this region as well. Among the candidates are ivory, glass, faience, cornelian and other lapidary materials, cedar logs and more exotic woods, perfumes, incense, and any of the materials that originated in Egypt.[71]

One of the most important of the new trading ventures involved increased trade with Italy and other areas to the west.[72] The introduction of the Aegean weight system into these new regions indicates the seriousness of the policy involving trade in this direction.[73] The western Mediterranean offered vast amounts of raw materials – timber, hides, foods, and potentially even metals – to compensate for local Aegean and Near Eastern resources that were increasingly being depleted. Purple dye from the murex shell may also have come from the west. In return, the Minoans could provide luxury goods to an almost untapped market. Finds of metal objects in Crete and discoveries of Minoan pottery in Italy and Italian pottery in Crete demonstrate that Italian trade was an important component of Minoan foreign policy.[74]

Less evidence survives for trade with the other maritime frontier for the Aegean world, the Black Sea, but a review of the evidence leaves little doubt that trade by sea existed with this region.[75] The nature of the evidence, including oxhide ingots and double axes, is not specific enough to prove the presence of Minoan ships, but it is possible that they were among the Aegean merchants who traveled to the northeast.

During the two millennia of the Minoan civilization, Cretan trade expanded from regional Aegean exchange to a much wider network. By the end of the Bronze Age, around 1190 BCE, Cretans were participating in an international network that routinely shipped goods over great distances. Commodities traveled over routes that reached from Mesopotamia to Italy and from North Africa to the Black Sea. Crete, near the center of this network of shipping lanes, profited greatly from the active exchange.

Suggestions for Further Reading

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10: Early Mycenaean Greece

James Clinton Wright

Chronological Phases

When the interregional culture of the Early Bronze Age in the Aegean collapsed, a period on the mainland of Greece followed that archaeologists term Middle Helladic (MH; Ch. 1, p. 3; Fig. 1.1). During much of this time the countryside was largely depopulated and there is very little evidence of trade and craft production. Because of the paucity of settlements discovered through excavation, only a few places have good stratified deposits: Lerna (level V), Kolonna on the island of Aegina (City VII–X), and Pefkakia in Thessaly.[1]

Scholars during much of the twentieth century CE argued for a break between the Early and Middle Bronze Ages, theorizing in particular the arrival of Indo-European speaking peoples at this time. Research in the past thirty years, though, shows that despite destruction and abandonment of some settlements after EH II and EH III, the transition between these periods shows many signs of continuity (Ch. 2, pp. 36–7). Furthermore, the succeeding transition between EH III and MH I seems to have been less abrupt than previously thought, with evidence of continuity in some of the ceramics and lithic traditions at Lerna (Ch. 2, p. 41). Likewise, it was thought through the 1970s that the shaft graves at Mycenae announced a dramatic cultural change beginning in LH I (with some scholars even arguing that Indo-European Greek speakers arrived at this time), but this view no longer prevails. We often cannot distinguish MH III from LH I, and frequently refer to assemblages as MH III/LH I, because the society that was developing into what we commonly refer to as Mycenaean civilization had deep roots in the indigenous Middle Helladic cultural forms (Ch. 1, p. 3). Yet the problem is also one of trying to force uniformity over a phenomenon

that in fact is heterogeneous, taking different directions in different areas. LH I is, however, characterized by its close association with the Neopalatial period in Crete and with such places as Akrotiri on Thera (Chs. 6; 7; 8, pp. 189–93). It is a closely defined period in terms of ceramic production and marks the rise of a distinctive and increasingly uniform Mycenaean pottery style that drew much inspiration from the shapes and decoration of Minoan pottery. During the following period (LH II), Mycenaean pottery began to influence that made on Crete. This relationship continued throughout LH III, when Mycenaeans were among those dominating at Knossos, because administrators there began to keep their records in Mycenaean Greek. During LH IIIA the Early Mycenaean period ended on the mainland, and the palaces emerged (Chs. 11, pp. 261–2; 12, p. 290).

Stylistic Subdivisions of Pottery

When speaking about sociopolitical developments in terms of the phases of our relative chronology, we should not forget that these phases are of different lengths of time in absolute terms (Ch. 1, pp. 3–7). Dickinson has subdivided the MH pottery into characteristic stylistic phases: "Early Minyan," "Decorated Minyan," and "Late Phase."[2] They contain a variety of fabrics, shapes, and decorative conventions that are conventionally referred to as Gray Minyan, Matt-Painted, Lustrous Painted, Red Slipped, and Polychrome, although recent analytical research on fabrics has much refined the classification.[3] These phases are useful typologically, even though they are not congruent with the chronological phases MH I, II, and III.

Minyan and matt-painted wares are diagnostic; that is, their presence identifies a closed archaeological stratum or context as MH in date. Minyan ware (named by the excavator Heinrich Schliemann after the legendary king Minyas of Orchomenos) is wheel-made, highly burnished, and incompletely fired. It ranges in color from jet black to gray and also appears in tan and red. Characteristic shapes are two-handled kantharoi and pedestaled goblets, often with incised or grooved rings around the pedestal (Fig. 10.1). Matt-painted wares are recognized by the flat dark (dark red, brown, and black) paints applied to vessels, either in thick bands or in geometric and later in curvilinear motifs (Pl. 10.1). Matt-painted decoration appears on bowls, kantharoi, jugs, and large storage jars, and the fabric varies from a greenish tan to yellow-brown and light brown. Matt-painted vessels are often large

and made of medium-coarse- to coarse-tempered clay. There are many other varieties of MH pottery too, and during MH III a proliferation of fine wares appears, often influenced by Minoan and Cycladic pottery. Minoan, Cycladic, and Aeginetan pottery are notable imports in MH contexts, especially in the later phases.

The State of Affairs at the Beginning of the Middle Bronze Age

There are several theories of the collapse of the cultures of the Early Bronze Age (Chs. 2, pp. 36, 38–41; 3, pp. 68–70; 4, pp. 97–8; 5, p. 109). It was first explained as the result of invasion by Indo-European-speaking peoples who were thought to have come from the north out of the Balkans or across the Aegean from Anatolia (modern Turkey).[4] More recently the collapse has been attributed to competition, especially for raw metals, between two loosely linked networks of interaction and exchange – one in central and southern Greece, the Aegean islands, and western Anatolia, the other along the Adriatic coast and through western Greece.[5] In this case violence resulting from conflict over the distribution of needed resources may be a cause. Another theory that must now be entertained involves palaeoclimatic evidence, notably from the study of ice cores on Mt. Kilimanjaro and dust deposits in Oman. Findings indicate a 300-year-long drought in sub-Saharan and Saharan Africa that affected the Mediterranean and the Near East.[6] Obviously this climatic variable could be a major contributor to the Early Bronze Age collapse, and indeed could have caused either of the scenarios suggested above.

Future research will no doubt settle this issue, but we know absolutely that the effect of the collapse on the mainland of Greece was destruction of settlements during EH II and EH III, and in some cases their subsequent abandonment. Many sites were not resettled, if at all, until the end of MH or the beginning of LH. Both coastal and inland areas were depopulated, but inland regions seem to have been affected most strongly. The abandonment is readily observable in graphs of the distribution of sites, both from general information gathered over the years and from systematic, intensive archaeological surface surveys of delimited study areas. Figure 10.2 shows these distributions for the Peloponnese. Many of the settlements that persisted throughout this period are situated on or near the coast. Only toward the end of MH

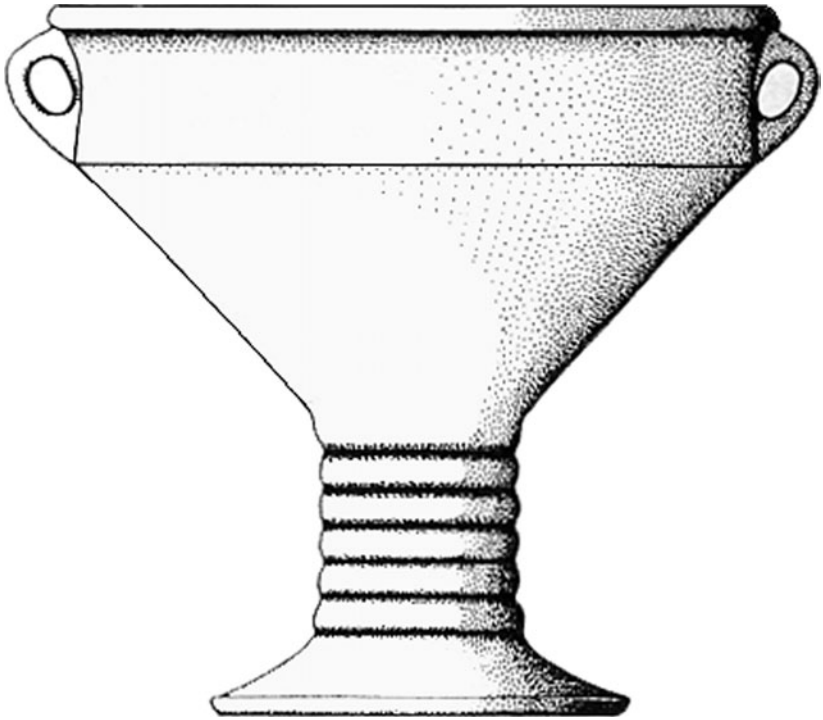

figure 10.1. Gray Minyan pedestalled goblet, Mature Minyan. After O. T. P. K. Dickinson, *The Origins of Mycenaean Civilisation*. SIMA 49. Göteborg: Paul Åströms Förlag 1977, fig. 2. Courtesy of the author.

did settlements begin again to spread inland, a phenomenon referred to as the "colonization of the interior."[7]

The Middle Bronze Age: Settlement Organization and Architecture

The material assemblage of this period is primarily a phenomenon of southern and central Greece. The islands of Aegina and Kythera are strongly involved also, and MH pottery appears at excavated settlements in the Cyclades. Some MH settlement is recognized in western central Greece as well as in Thessaly, but there is not good evidence of MH material in northern Greece.

Both intensive survey and the less systematic identification of settlements, cemeteries, and other sites of human activity in southern and

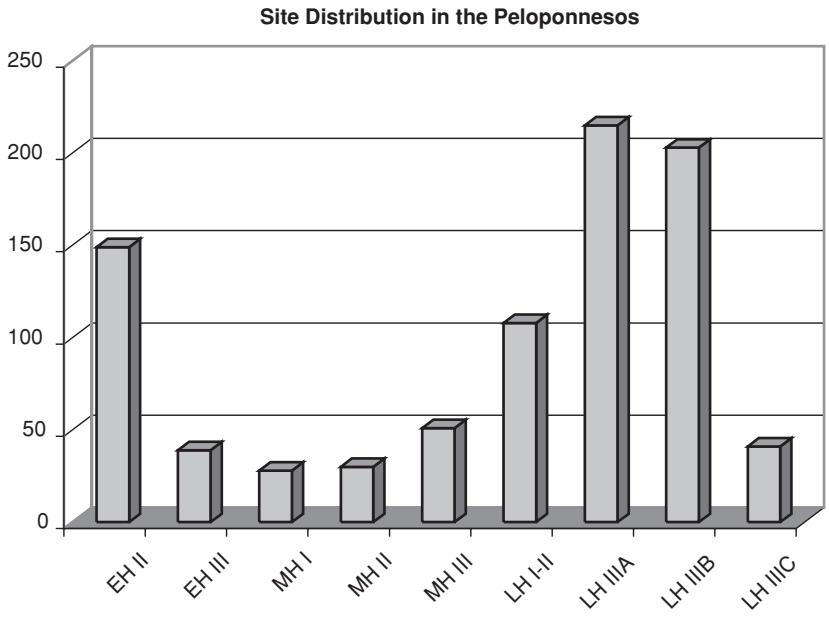

figure 10.2. Graph of site distributions for NE Peloponnesos, Lakonia, and SW Messenia. Graph by the author.

central Greece provide an increasingly detailed picture of settlement and land use. During the Early Bronze Age, settlements were widely distributed over the landscape, whereas during the MH, there was a tendency toward nucleation. It appears, for example, that this is the time when the focus of settlement was on and around the citadels that later became the centers of Mycenaean civilization. Although some settlements grew in MH II, only beginning in MH III were existing settlements expanded considerably and new ones founded; these flourished throughout the Mycenaean period.

Excavation of a number of these sites in all regions gives us a fairly reliable picture of settlement form and organization. Because the exposure of architecture and of plans of settlements is limited and complicated by problems of stratigraphy, we have to rely often on the evidence from burials. For this reason it is difficult to calculate settlement size. Clearly the early settlements were small – no more than 1–2 **hectares** (a hectare is 10,000 sq. m or about 2.5 acres) at a maximum. By the end of MH, when the major settlements can be identified, they were considerably larger, but still did not approach the size of contemporary urban centers in Crete, not to mention the Near East.[8] Many of these settlements, either hamlets or villages, are

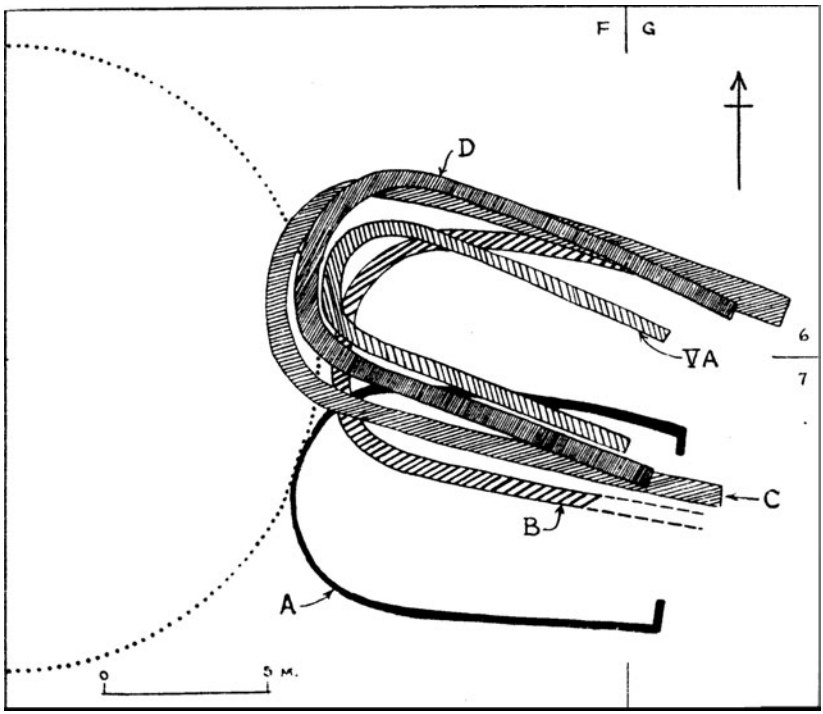

figure 10.3. House continuity at Lerna, periods IV–VA. After J. L. Caskey, "Houses of the Fourth Settlement at Lerna." In *Charistērion eis Anastasion K. Orlandon*. Vivliothēkē tēs en Athēnais Archaiologikēs Hetaireias 54. Athens: Hē en Athēnais Archaiologikē Hetaireia 1966, III, 150 fig. 5. Courtesy of the author.

located near good agricultural land and sources of water. They are usually situated on eminences that are naturally defensible or command controlling views of the landscape.

The few excavated settlements, such as Lerna, Asine, and Eutresis, show loosely arranged groups of buildings. In general the primary principle of organization seems to be residential location. The pattern is seen very clearly at Lerna and Asine, where continuity in the placement of houses (Fig. 10.3) throughout much of the MH permits us to argue that these were long-term family residences.[9] Another indication is that burials of the earlier phases of MH are scattered throughout the settlement area and were primarily pits dug into the earth or cists lined and covered with stones. In the later phases (MH II and especially MH III), the arrangement of buildings was more organized, as at Asine and Malthi (Fig. 10.4), and individual burials were grouped in plots or in cemeteries, sometimes within but more often outside the

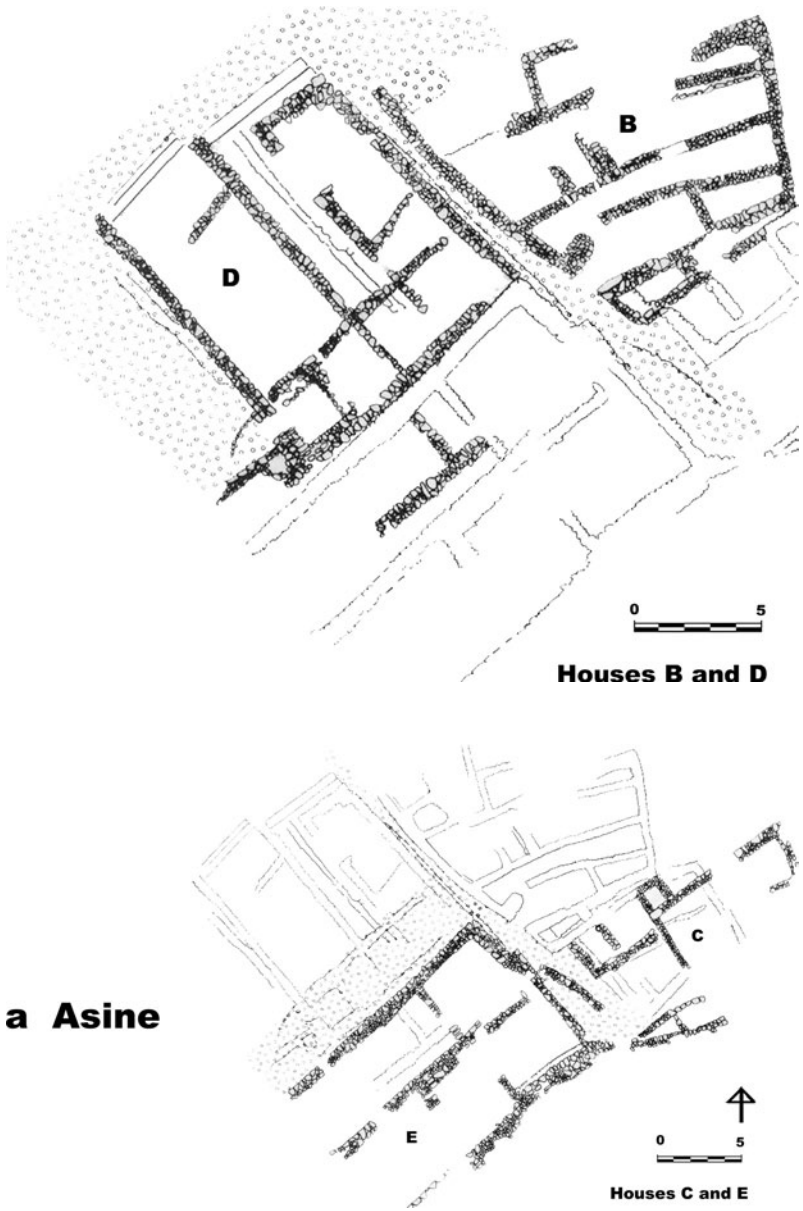

figure 10.4. (a) Plan of Asine, houses (left) B and D; (right) C and E. After G. C. Nordquist, *A Middle Helladic Village: Asine in the Argolid*. Boreas. Uppsala Studies in Mediterranean and Near Eastern Civilizations 16. Uppsala and Stockholm: Academia Upsaliensis 1987, figs. 14, 15. Courtesy of the author. (b) Plan of Malthi settlement, levels III–IV. After N. Valmin, *The Swedish Messenia Expedition*. Lund: C. W. K. Gleerup 1938, plan III.

b Malthi

figure 10.4. (*continued*)

settlement (Argos, Prosymna, Ancient Corinth, Asine, Peristeria, Marathon, Aphidna).

By MH III and continuing into LH I, new settlements were founded and old ones enlarged. The new were usually located in the interior regions of the mainland, on slopes of the coastal plains and upland valleys, and they took the form of hamlets or villages. As existing settlements grew they consolidated their form, and defensive outworks were built (as at Kiapha Thiti, Argos, Malthi, Pylos, and Peristeria, and possibly at Brauron and Mycenae). The interior of the settlement was sometimes divided into different areas both functionally and socially (Malthi, Argos, Tiryns), and this may mean that economic, political, social, and religious activities were beginning to be centralized. Well-defined cemeteries are frequent, and formal reserved burial areas within cemeteries are common (Pylos, Peristeria, Koukounaries, Samikon, Lefkas, Thebes, Aphidna, Marathon-Vrana, Eleusis, Ancient Corinth, Mycenae, Dendra, Asine, Argos, and Lerna).[10]

Whereas buildings of the early half of MH tended to be **apsidal** (with one rounded end) axially oriented structures set without any consistent pattern of orientation or relation to each other, during the latter half of the period rectangular axial buildings predominated. The rectangular buildings could stand alone (Eutresis, Korakou), be grouped into pairs, or be elaborated into multiroom structures (Asine, Malthi, Tsoungiza). This development probably reflects residence for more than merely a nuclear family and is also likely a consequence of the growth of communities and their need for more organization. These houses had front porches, sometimes with a post (Pl. 10.2). They were divided into two or three rooms and the central room frequently had a central hearth, sometimes with a post next to it. Doorways were centered. The

walls were normally of mud brick with rubble socles. Thatched roofs were laid over rafters with a gable at the front and, in the case of apsidal plans, with a hipped roof at the rear. Bins, ovens, and benches are also sometime found outfitting the rooms. Rear rooms may have been used for storage, and some were entered from outside.

Social Structure, Economy, Population, and Settlement

The combined evidence of residential architecture and burials at many settlements, but especially at Lerna, Argos, and Asine, permits a qualified assessment of social structure at the beginning of MH.[11] Presumably the houses were for individual families, probably no more than five or seven persons. Sometimes families buried their dead within the settlement, sometimes under house floors and in abandoned residential areas, but over the course of time they preferred cemeteries outside the residential areas. The stability of patterns of residence (as at Lerna IV–V and Asine, Fig. 10.3, 4a) allows us to postulate permanent settlement over generations. Equally, the establishment by MH II of **tumuli** (burial mounds) and cemeteries with burials mixing age grades and sexes indicates the importance of family and lineage. As settlements began to be consolidated during MH III and LH I, burial practice became highly differentiated: first in the widespread appearance of cemeteries; second in the frequency of burial in well-demarcated mounds (often within cemeteries); third with the appearance of built, large cist graves, deep shaft graves in the Argolid (sometimes with stone markers carved with scenes in relief), and in Messenia **tholos** tombs (tombs with round domed chambers; Ch. 11, pp. 259, 268; 13, pp. 328–9; Fig. 13.2). This progression, though not uniform throughout the mainland, reflects a social structure evolving toward a lineage-based society. By LH II, the stratification of the society was complete. The ruling elite constructed monumental tholos tombs and large and highly elaborate chamber tombs (Fig. 13.1); by LH IIIA, the rest of the populace buried their dead in simpler chamber tombs and occasionally in the old traditions of burial mounds and pit and cist graves.

Grave goods also demonstrate increasing social differentiation as elites included luxury and prestige items in their burials. From at least the beginning of the Middle Bronze Age, we find two varieties of prestige objects: those acquired abroad (primarily Minoan and Cycladic pottery) and curated items of the hunt (notably boars' tusks). Occasional

metal items appear both in domestic contexts and especially in tombs. This phenomenon is recognized throughout the mainland: Lerna, Asine, and Argos in the northeast Peloponnese; Kolonna on the island of Aegina; Thebes and Dramesi in Boeotia; Ayia Irini on the island of Keos; Thorikos, Marathon, and Aphidna in Attica; Kephalovryson Ayios Ioannes, Papoulia, and Voïdokoilia in Messenia, and on the island of Lefkas.[12] Notably, only a few of these places developed into primary centers in the Mycenaean period.

Beginning in MH II, and increasingly during MH III–LH I in progressively richer burials, boars' tusks, obsidian points, and imported pottery sometimes occur with other prestige objects of gold, silver, and bronze that come in the form of jewelry, weapons, and vessels. This display of wealth and power demonstrated the emergence of leaders within these fledging communities. At first these leaders were probably heads of factions within their communities who competed with each other for prestige, influence, and power. They are often referred to as Big Men – a term coined by anthropologists to describe tribal leaders of communities in Melanesia.[13] In MH Greece their reputation may have been based on their prowess as hunters and as leaders of hunting parties, or on their ability to participate in maritime trading or perhaps raiding expeditions. Coastal communities such as Lerna provided access to such maritime ventures. Renown for hunting may be more associated with inland settlements, although these activities are by no means exclusive.

The economy of MH settlements was based on subsistence crop production and animal husbandry. It is significant that the successful settlements are those with access to the well-watered and naturally drained soils of Neogene marl that characterize the slopes bordering the plain of Argos, the uplands of Laconia, the drainages of southwestern Messenia and the Corinthia, and the inland basins and plains of Attica and Boeotia.[14] Cultivation of grains, olives, and grapes took place, but nothing indicates large-scale production of surplus. The architectural remains at most settlements do not reveal special areas or buildings for storage other than back or side rooms in houses. There are few examples of large storage jars for most of the MH period. Nor is there much evidence for the transformation of foodstuffs other than ovens and hearths within houses (as at Eutresis, Buildings G, Q, R).[15] At Argos, it has been suggested that the rooms built along the inside of the fortification wall were for storage, and finds collected from similar rooms at Malthi support this interpretation.[16] Examination of animal bones from Tiryns, Lerna, and Tsoungiza indicates the raising of sheep and goats, pigs, cattle, and some equids and the hunting of red deer

and boar.[17] Domestic herds, whatever their size, would have been put out to graze and forage in the surrounding landscape. Before being slaughtered, the animals probably would have been corralled near the settlement and fed surplus from gardens to fatten them.

The enduring settlements, especially the coastal ones, were early involved in pottery production, as well as the acquisition of pottery and other items from the Cyclades and Crete. No doubt other craft activities and opportunities for exchange also existed, for which there is little evidence. There was always a means of exchange between the Aegean archipelago and the mainland, and it is equally likely that goods were trafficked back and forth from offshore and coastal entrepôts. The islands of Keos, Aegina, and Kythera were major players in this activity, in contact respectively with central Greece, the northeastern Peloponnese and Saronic Gulf, and the southern Peloponnese. Coastal settlements such as Pefkakia on the coast in Thessaly, Lefkandi on Euboea, Lerna in the Argolid, and Pavlopetri and Ayios Stephanos in Laconia were also much involved. Particularly indicative is the distribution of Aeginetan wares, which during MH III appear in large numbers at many sites, notably at Asine and Lerna in the Argolid and at Korakou in the Corinthia.[18] Aegina was a major producer of pottery and a source of andesite, which was used for grinding stones. From the Neolithic period, andesite was widely distributed throughout the Aegean and the Greek mainland.[19] No doubt for this reason and by virtue of its dominant position in the Saronic Gulf, Aegina was a major node in any network to the Cyclades and became a maritime power to be reckoned with, if we properly understand the early depictions of boats and probable armed mariners on its pottery.[20] By MM I, Kythera was a well-established Minoan settlement, which since the Early Bronze Age had exerted influence on the southern Greek mainland (Chs. 4, p. 92; 9, p. 217).[21] A good example of this is the settlement of Ayios Stephanos near the southern coast of Laconia; it was founded during MH II and grew in MH III and LH I, when Kytheran and Minoan influence on the mainland became especially apparent. Good indications are the appearance of a Linear A sign there, the introduction of the Vapheio cup, and Kythera's role as a major producer and distributor of large-scale storage vessels.[22] Kythera may have influenced early Mycenaean settlement in Messenia also. Ayia Irini on Keos had long had strong connections with Attica, notably the mineral-rich district of Laurion, and during this time was also in contact with Boeotia.[23] The importance of these three islands in the development of the Mycenaean centers on the mainland cannot be overestimated. Other

islands also played a role in this interaction, as the appearance of Melian and Theran pottery in high-status graves on the mainland indicates.[24]

The overall increase in site numbers begins in MH II and dramatically expands during MH III, which correlates with a wider distribution throughout the mainland, though it does not achieve the network-like distribution that existed during the Early Bronze Age. These developments imply an increase in both land use and population. Estimates of population can be ventured through study of the number of burials made from phase to phase, as well as by measuring the increasing area of the settlement. Given the patchy record, such estimates can only be hazarded in a few instances, but they are instructive as rough measures of the magnitude of change from the beginning of MH into early LH. Populations were small throughout most of the MH period; villages would not have had more than seven to twenty families, rarely exceeding a population of about 100. Malthi, with over 150 rooms within an area about 9,900 sq. m, may have held as many as twenty-five households, giving perhaps a population density of between 125 and 175 persons per hectare. Asine has been calculated at between 1.5 and 2 hectares with a population as low as about 300 or as high as about 530.[25] At Pylos a recent surface survey has estimated for the late MH through early LH periods an inhabited area from 5.5 to 7 hectares.[26]

Population must have increased dramatically by LH I, but it is nearly impossible to measure at this time because of the disturbance caused by later occupation, especially at the palace sites. Furthermore, the increasing diversity in types of mortuary facilities (pit, cist, shaft, mound) and locations means that we do not know the full extent of cemeteries (Ch. 13, pp. 328–30). Our difficulty is even greater in LH II, when the tholos and chamber tombs became widespread. At Argos the settlement on the Aspis hill, contained within a circular fortification, offers one indication of what a late MH settlement looked like, and it is similar to Malthi in Messenia (Fig. 10.4b). The consolidation of the Lower Town at Asine and the expansion of that settlement onto the facing Barbouna Hill in MH III–LH I seem to correspond to an expansion of the cemeteries, and these may indicate the creation of separate neighborhoods within the settlement. This period also witnesses a consolidation of the immediately surrounding territory of Asine. The appearance of fortified settlements at Argos and Mycenae in the northeast Peloponnese, at Pylos, Peristeria, and Malthi in Messenia, and at Kiapha Thiti and Brauron (and possibly Thorikos) in Attica likely means that with the emergence of nucleated centers of population there developed

concern for defense against other competing settlements or raiders. Another way to study population is through archaeological survey. The intensive surveys conducted throughout much of the Peloponnese and central Greece clearly demonstrate an increase of population tied to an increase in settlements and human activity throughout the regional landscape. Population growth is uniformly evident by LH I, but individual areas and settlements had different trajectories. The Berbati Valley adjacent to Mycenae and the much more distant southern Argolid differ greatly, for example, whereas the Argolid in general throughout the Bronze Age has a different history and form of settlement and land use than Laconia or Messenia.[27]

Differential Trajectories and the Emergence of Leadership

The process of the formation of a distinct "Mycenaean" material culture was neither uniform nor concurrent throughout southern and central Greece. Some scholars argue that some settlements manifested social stratification by MH II, well ahead of the "explosion" of settlement and nucleation that followed during MH III and LH I. A clear case is the MH II "shaft grave" at Kolonna on Aegina, which displays a magnitude of wealth unparalleled until the shaft graves of Circle B at Mycenae in MH III.[28] High-status burials in Boeotia show that the phenomenon was not restricted to coastal regions, and this is an important indication that the formation of Mycenaean culture resulted from various causes. Focused fieldwork will be needed to determine precisely what the differences were, but we can propose a sociopolitical model that accounts for the evidence we have.

Although some settlements seem to have been in contact with the islands and Crete during the heyday of the first palaces on Crete, MM I–II (Ch. 5), the impact of this interaction was not widely felt, nor did it have any substantive impact on settlement form and organization. The rise of major settlements was unpredictable, dependent upon the vagaries of social interaction and opportunism as much as (if not more than) upon proximity to exploitable resources. Thus the material evidence for elites in these early communities, mostly found in high-status burials, is characterized by its diversity, whether one is studying the architecture of the tombs or the grave goods. This was a time when the fledgling communities on the mainland were primarily organized according to family and kin relations and where lineages represented the

highest organizing and integrative element of society (above, pp. 238–9). In such a situation the leaders were just beginning to gain political prowess, perhaps by capitalizing on their reputations as hunters, warriors, adventurers, and providers.

These manifestations of status and rank differentiation within communities also signal increasing regional interaction among communities as they began to compete for resources and labor. The intensive survey in western Messenia by the Pylos Regional Archaeological Project has shown very clearly how competition among these communities led to the nucleated settlements of the late MH period, many of which also constructed elaborate burial facilities. Burial mounds and the first tholos tombs both attest to strong lineages with Big Men leading them.[29] Similar developments took place in the Argive plain (Argos, Asine, Lerna, Mycenae, Dendra), in Attica (Marathon, Aphidna, Thorikos), and in Boeotia. We do not know what kind of interactions led to these developments, but it seems likely that a man's reputation as a hunter was a primary attribute, because many of the later and richer burials (of MH III and LH I–II) have caches of boars' tusks, and even helmets made of boars' tusks, as well as daggers and swords, and representations of hunting.

At the same time, some of these men were also making their way on vessels to island ports and the palaces of Crete. They may originally have participated in raiding parties, but probably soon came to offer their services as warriors, either to control piracy or to provide security in and around the palaces. In these capacities such adventurers were able to amass items of durable wealth and luxury, which they used to exalt their status in relation to their peer elites and over their communities. By virtue of their access to the craft products of the superior societies of the Aegean islands and Crete, they set themselves up as exclusive brokers for all things foreign and exotic. Such a situation must be understood as dynamic, highly competitive, and ever-changing, as different elites developed and exploited relations with different places. Besides the island connections already noted (with Aegina, Kythera, Keos, Naxos, Melos, and Thera), important contacts developed with the various palace settlements and their dependencies throughout Crete, as well as probably the western coastal settlement of Turkey and possibly even farther abroad in Italy and Sicily. It is important to remember that as the mainland elites were engaged in such competitive interaction, those who controlled the palaces of Crete and the major settlements on the Aegean islands were themselves no doubt active and eager to exploit resources and opportunities on the mainland.

The Emergence of Centralized Settlements

In classic discussions of the rise of political complexity, the appearance of chiefdoms signals a centralization of power and authority, often by a predominant lineage, replacing the factional and unstable leadership of Big Men (above, pp. 238–9; Ch. 5, pp. 107–8).[30] The developments on the mainland of Greece from the end of MH through the early phases of LH are a good archaeological case study of this process. Chiefdoms, however, do not necessarily follow upon tribal or transegalitarian societies led by Big Men.[31] It is probable that in some instances several Big Men who led factions within a community or region could have come together in an oligarchy and founded early states at some of the citadel centers. In general the leaders of these emerging communities would have faced several problems in extending and consolidating their positions. Insofar as they were successful in establishing their status and reputation as warriors or through other roles, they would have had to acquire political prowess and translate this into social and economic power. Not least among their problems would be passing on their authority to designated heirs and ensuring that they also would possess the necessary power to secure their positions. Ethnographic examples inform us that the translation of sociopolitical reputation into durable power and authority is accomplished through alliances and coalitions, which are created and maintained through marriage and descent (matrilineal and patrilineal), through feasting and its accompanying display and gift-giving, through manipulation of rituals and control of religion, and through force. For these transformations to happen, some form of control over the agricultural and pastoral economy would be necessary. The geographic consequences of these changes should be apparent in evidence of differential access to resources, which may have led to the formation of a community territory with notional boundaries. Disputes over boundaries would create opportunities for leaders to enhance their status, and warfare would result in the capture of slaves and the annexation of new territory. Maintenance and extension of boundaries is therefore an aspect of community stability and growth, and in economic terms the leaders who were able to extend control over territory and other populations were in a position to enlarge both the labor force they commanded and its productive capacity.

On the Greek mainland during the Middle Helladic period, many of the areas inland from the coast and in the uplands of the interior were either abandoned or at least only loosely inhabited and exploited. Many of these were colonized beginning in MH III,[32] but we do not yet know

whether these new habitations were made by independent pioneers or by settlers who were planted by or in some way acting on behalf of emerging centers. Nonetheless, the rise and spread of settlement during MH III and LH I probably point to a rise in population and an increase in agricultural production over a wider landscape than before. From this time forward the competition among different communities for territories was heightened. The resulting conflict is no doubt reflected in the widespread appearance of high-status burials in the shaft graves and cist and tumulus burials that contained daggers, swords, knives, boar's tusks, obsidian points, and various exotic craft items. Equally, many of these burials demonstrate wealth in terms of increasing inclusion of pottery for storage or consumption, presumably of commodities that signify control over specialized agricultural production, such as wine and olive oil.[33]

The archaeological evidence for this process is quite variable over southern and central Greece, and particularly important is the appearance of reserved burial areas within cemeteries or separate from them. Grave Circles A and B at Mycenae are the most famous examples of this phenomenon, but other examples are known at Asine, and especially among the tumulus cemeteries in the Argolid, in Attica, and throughout southwestern Messenia. By LH I the tholos tomb was introduced. All these high-status tombs are larger in size, often specially constructed and contain luxury goods, such as gold diadems, weapons, jewelry, and imported pottery (Chs. 11, pp. 259–61; 13, pp. 337–8; Fig. 13.2).[34]

In this dynamic situation successful elites began to consolidate power over their communities and their regions, and may have extended that control to wider regions by incorporating other communities through conquest or alliance. Asine appears to have become a small town controlling a definable territory by LH I, on the basis of the appearance of settlements in its immediate environs at this time. The same development also took place in southwestern Messenia.[35] Settlements proliferated during the later MH, and the coherence of their social structure is demonstrated by the number of formalized burial areas: mounds with cist and jar burials, grave circles, and then built tholos tombs, as at Papoulia, Kato Englianos, and Voïdokoilia. Both survey evidence and the spread of large tholoi signal local consolidation by the beginning of LH IIA, perhaps by strong lineage groups headed by chiefs or Big Men. At Malthi, Peristeria, and Pylos this process resulted in fortified **polities** (politically organized societies; Fig. 10.4b). In the core area around the Bay of Navarino it appears that many of the MH settlements reached their acme by LH II; thereafter they lost their

autonomy and fell under the power of the community on the ridge of Ano Englianos (Pylos). A monumental palace was constructed here, probably as early as LH I (Fig. 12.1), and the extension of territory over a wide area encompassed most of the region to the north and west and that to the southwest around the Bay of Navarino. By LH IIIA2 the Messenian Valley to the east (on the other side of the Aigaleon mountain range and containing the Messenian Gulf) was consolidated into the State of Pylos, including the establishment of secondary administrative centers with their associated villages and hamlets (Ch. 12, pp. 299–300, 303; Fig. 12.2).[36]

Although the process of establishing territories under the control of a central authority is not as readily observable elsewhere, several parallel situations exist. In coastal Laconia the settlement of Ayios Stephanos continued to be active through LH III although it never attained a size larger than a village, perhaps because of the strong control exercised by Kythera (above, p. 240). In the upper Eurotas plain the settlement at the Menelaion was established in MH II and continued to grow in size throughout the LH period. A formally planned structure known as Mansion I was built in LH II and is often singled out as a predecessor to the later palaces (Fig. 10.5; below, p. 250); it was succeeded in LH III by larger structures that elaborated upon the original plan. In the northeast reaches of the Eurotas Valley a significant cemetery of chamber tombs at Pellana bespeaks a substantial settlement, and to the south, down in the plain below Sparta, the tholos at Vapheio was constructed in LH II, surely a strong sign of a controlling authority emerging there, and is perhaps to be associated with the nearby site of Palaiopyrgos. Despite the evidence from these sites, no single palace center on the scale of the others in the Peloponnese and central Greece ever developed in Laconia.[37] In striking contrast, conditions in the Plain of Argos favored the emergence of a number of strong local settlements, of which a few became dominant citadel-centered polities during LH III. Thus the chamber tomb cemeteries and tholoi mark out Kokla, Argos, Mycenae, Berbati, Prosymna, Dendra-Midea, Tiryns, and Nauplion; just beyond to the southeast lies Asine; farther east are Kazarma and Palaia Epidauros. This distribution may be similar to that of Messenia in the early Mycenaean phase; certainly the distribution of tholos tombs during LH II is widespread: Mycenae (6), Prosymna (1), Berbati (1), Tiryns (2), and Kazarma (1). Dendra produces a tholos of LH IIIA1 date.

The wealth represented by these monumental tombs probably reflects domination by leading lineages, in contrast to settlements that had only chamber tomb cemeteries. Of the sites with tholoi, only

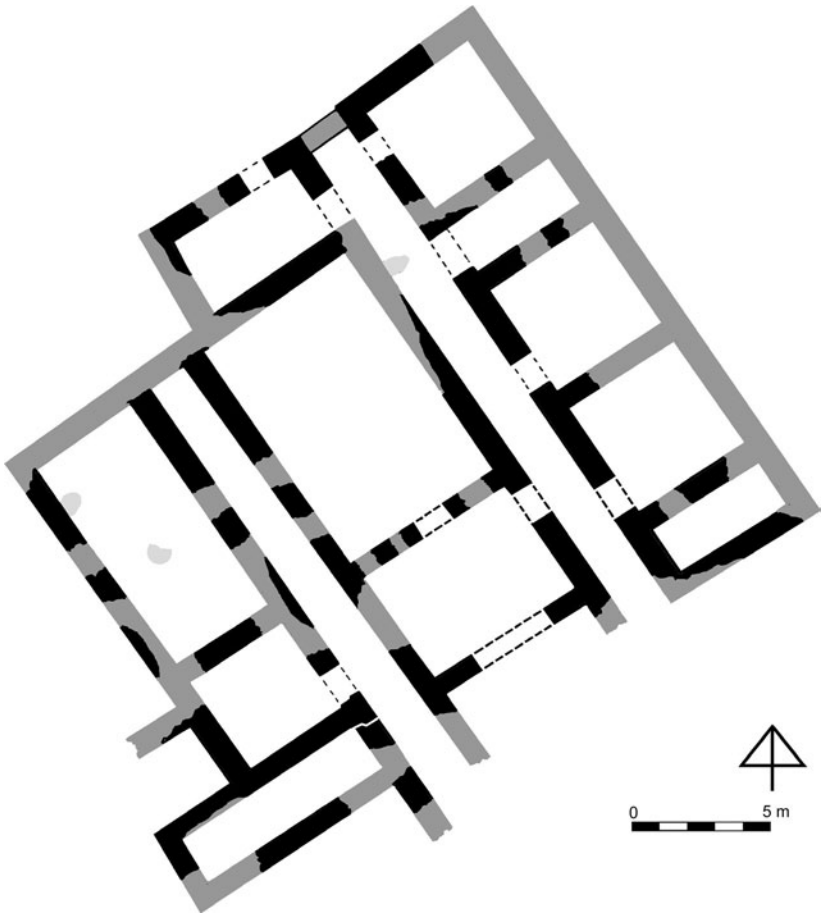

figure 10.5. Plan of the Menelaion, Mansion I, LH IIB. After G. Hiesel, *Späthelladische Hausarchitektur: Studien zur Architekturgeschichte des griechischen Festlandes in der späten Bronzezeit*. Mainz: Philipp von Zabern 1990, Fig. 1.1. Courtesy of the author.

Mycenae and Tiryns developed monumental and architecturally diverse palace complexes in LH III. Yet it is unclear if these polities achieved the kind of unified territorial hegemony that is witnessed in Messenia.[38] A continuing problem of interest is how and when any of these palace centers extended their reach beyond the Plain of Argos, but at present this question has been investigated only for Mycenae. Survey of the Berbati–Limnes valleys behind Mycenae demonstrates that this expansion happened early in LH III. Apparently it also included the northwestern upland hinterlands at this time, as Tsoungiza and Zygouries,

dominating the Nemea and Longopotamos valleys to the northwest and north, seem to have been incorporated within LH IIIA.[39] The same may be true for the region to the west, apparently dominated by a major settlement at Aidonia (with over twenty-one chamber tombs) that commands the large plain of the Asopos River. This extension of Mycenae's power may be the reason that on the coastal plains of the Corinthia there never developed a central Mycenaean settlement.

We remain less well informed about the evolution of settlement and the process of centralization during the early Mycenaean period in central Greece. Eleusis was at this time a substantial settlement, to judge from the architectural assemblage of building B and from its cemetery.[40] In Attica, Athens seems to have been a center; although late MH–LH II material is scarce, there are numerous chamber tombs in the area of the Agora. Kiapha Thiti in central Attica was fortified, as may have been Thorikos on the southeastern coast. The latter was a substantial settlement with a very early tholos tomb (MH III–LH I) and another of LH II date, and may have had, as the source of its wealth, control over the lead and silver in the Laurion district. At Vrana, in the plain of Marathon, several tumuli were in use from MH III into LH III (Pl. 13.1), and nearby a tholos with two horses buried in the **dromos** (entrance passage) dates to LH II (Ch. 13, pp. 330–31). In Boeotia the evidence for the early Mycenaean period is scarce, and for the early phase is limited to mortuary remains of MH II–III date (at Dramesi and Thebes) and the important settlement remains from Eutresis (MH III–LH III). A series of elaborate chamber tombs at Thebes, mostly LH III in date, demonstrates the growth of an important settlement, as do the similarly dated well-known painted terracotta **larnakes** (clay coffins) from chamber tombs at Tanagra (Fig. 12.4 shows a Cretan example). Similar developments were no doubt taking place at Orchomenos, for which we have scanty evidence, but the evidence from research at Gla and in the fertile but swampy Kopaic Basin makes it clear that the exploitation of its territory by Orchomenos likely did not occur much before LH IIIB. At Dimini, in Thessaly, a substantial Mycenaean center was being organized during the early Mycenaean period and resulted in the foundation of what may be the northernmost Mycenaean palace by LH III (Ch. 11, pp. 261–2).[41]

In this manner the population was focused primarily around citadels or primary dominant settlements; and, as intensive surveys have shown, there were also villages and hamlets in the outlying territories. The growth of territory and the expanding needs of the citadel centers during LH II and IIIA increasingly required centralized and

specialized management. The ruling elites controlled craftsmen and craft production and were able therefore to centralize and store staples and convert them into durable wealth for themselves, for display, and for gift-giving. They established or controlled centers of worship by interposing themselves (and their ancestors) between the community and the gods. An early example of a sanctuary is at Epidauros in the later Apollo Maleatas sanctuary, where Minoan elements were introduced into a Mycenaean center of religious worship during LH I. In general, however, there is little evidence of formalized religion until the founding of the palaces in LH IIIA – just when Mycenaean figurines, thought to represent female deities, began to be produced. The most successful polities became stratified sociopolitical entities characterized by the emergence of a functionary order of specialists who managed the administrative, economic, and religious activities of the community. This marks the formation of the formal structure of a state.

At most of the palace sites, special structures were constructed, perhaps as early as LH II. At Mycenae, Wace found sufficient pottery and strata under the main court to indicate a substantial occupation there, and more recently, excavations have unearthed under the main palace building at Tiryns the remains of early Mycenaean buildings (MH III–LH I, LH II–IIIA, and LH IIIA; below, p. 250). Substantial rectangular LH II buildings are known from the lower town at Tiryns (buildings D1, F2, F3) and from Eleusis (building H).[42] At Kakovatos in Elis are remains of two substantial LH II structures and two well-built tholos tombs. A major apsidal building and accompanying rectangular ones were constructed at Thermon in Aetolia.

Not all early centers developed monumental palace complexes. They were, instead, a response to the need to centralize authority and the economy and to administer community activities. In them leaders met and resided, ritual and cult were performed, and craft production and storage could be concentrated. Because there is a difference between the organizational and administrative needs of a village-centered society and those of a state, there are consequent differences in scale and magnitude that in the state find their material expression in the architecture of palaces, although it must be stated that as symbolic displays, palaces may be highly elaborated edifices independent of the material functions they may perform.

It is traditionally assumed that the palaces evolved uniformly throughout the core area of Mycenaean society, because this development seems to explain the resultant plan of an axially aligned rectangular structure (dubbed **megaron** after the Homeric term)

consisting of porch, anteroom, central room with hearth and surrounding colonnade, and emplacement for a throne at the center of the right-hand wall (Ch. 11, p. 262; Fig. 11.1; Pl. 11.4).[43] The LH II "mansion" at the Menelaion in Laconia has often been cited as the intermediate stage in the formation of the palaces (Fig. 10.5). It is built of rubble masonry, but may have had some half-timbering and a second storey. At the core of this plan is the linear and axially arranged house, to which have been added flanking corridors with secondary rooms for storage and craft production. Unfortunately the floors and interior furnishings of this building are not preserved, so it is impossible to know how such important elements as hearths and posts/columns were disposed. There is, however, no evidence to suggest that this plan was adopted at every emerging center. Recent restudy of the remains at Pylos shows that an arrangement of buildings dated to LH I used limestone **ashlar** masonry (smoothed rectangular cut blocks) and was grouped around a court; this ensemble apparently bore no resemblance to the plan at the Menelaion. In fact, in its use of ashlar it is more closely related to the Minoan palaces (Ch. 6, pp. 146–7).[44] At Tiryns, a cluster of rubble-built structures dates to MH III–LH I;[45] they display neither an organized plan nor an enlargement or formalization of the freestanding axial buildings so common during the Middle Bronze Age. This group is succeeded by a more formal building with a stepped entrance dating to LH IIB–IIIA1 and seems to preserve a formal stepped entrance into a building oriented N–S.[46] No evidence of the use of such specialized elements as ashlar masonry or half-timbering is preserved. Fragments of painted stucco may belong to an early fresco, again dated to the period LH IIB/IIIA1.

The familiar plan of the palaces (Fig. 11.1) resulted from the process of peer polity interaction, as outlined by Renfrew.[47] It is first seen in LH IIIA1 at Tiryns in the Argolid, but is not integrated into the complex and characteristic plan consisting of a megaron flanked by corridors and ancillary rooms until LH IIIB (Fig. 11.4). At Pylos, the plan commonly represented as typical of the Mycenaean palace in fact only was built at the beginning of LH IIIB (Fig. 12.1).[48] As a unique form the Mycenaean palace demonstrates how indigenous "Helladic" social structure and cultural forms were expressed in architecture, taking features eclectically from the existing Minoan and island architectural traditions, and also from the Hittites. Thus the formalization of the hearth, throne, and interior columns of the central room represents the Helladic architectural tradition, whereas Minoan masonry practices governed the production of **orthostats** (upright stone slabs) and ashlar

masonry, and Minoan fresco painting provided an iconography adapted for Mycenaean purposes. Elements shared with the Hittites include **corbelled** vaults (constructed of overlapping courses of blocks) and the use of hard stones for column bases, thresholds, and anta bases (the thickened projections of long walls) and a form of wall construction using timber forms.

Interaction between Early Mycenaean Settlements and the Aegean

Minoan dominance made the Middle Bronze Age interaction between the mainland and Cretan and island settlements one-sided, but during LH/LM I and II the rulers of the mainland centers began to assert themselves. The evidence for this is circumstantial and has been much debated. At Akrotiri on Thera the miniature frescoes from the West House (Ch. 8, pp. 191–2) depict warriors, who many scholars think were intended to represent Mycenaeans. They are clearly organized into troops; they march in order and are outfitted with standard armaments: long sword and scabbard, pikes or lances, tower shields, and helmets, probably of boar's tusks. Given the long history (beginning in MH I at least) of the valuation of boar's tusks and the evidence of status symbolized through militaristic items (from obsidian points to gold- and silver-bedecked weapons; Ch. 11, pp. 259–61), it is difficult to avoid the conclusion that these troops were mainlanders, and that during the Neopalatial period they were important formal participants in Aegean affairs, lending or allying themselves to island polities and to palace centers on Crete. Their intimate involvement in the life of these communities is demonstrated by their appropriation of craft items for a variety of uses in their mainland communities. Thus we find in the Mycenae shaft graves jewelry that was in use in the islands, Minoan seals and seals carved in Minoan style especially for "Mycenaean" tastes, "scepters" likely used as symbols of authority, economically useful items such as standardized weights and weighing scales with pans, and pottery imported from the islands and from Crete (Chs. 9, p. 217; 11, pp. 260–61). Some items directly link Mycenae to special deposits in the palaces at Knossos (the "Temple Repositories," the Little Palace) and at Zakros (the Treasure Room). Many of these seem to have been used in rituals performed in the courts of the Minoan nobility and also in religious practice, as at peak sanctuaries (Ch. 7, pp. 165–70). Items from the early Mycenaean cult center at the Maleatas Sanctuary at

Epidauros reflect Mycenaean borrowings from Minoan religious practice.[49] In addition, some items such as amber from the Baltic and a lead–tin stag of Anatolian type bespeak contacts much further afield.[50]

Mycenaean influence on Crete is not well documented for LH/LM I–II. There are LM I burials from the port of Herakleion (Poros–Katsambas) that contain militaristic items (Ch. 7, p. 172), and from Archanes the so-called "shaft graves," whereas during LM II the "Royal" tombs at Knossos were built. Soon after, LM II-IIIA1 Warrior Graves proliferated around Knossos, at Archanes, at Phaistos, and at Khania (Ch. 12, p. 315). Even though these are tombs of types characteristic of the mainland (chamber, shaft, and tholos tombs), and include depositions of grave goods also typical of mainland tombs, they need not have been only tombs of conquering mainlanders. There are good reasons to think that some of these were burials of local elites adjusting to a new political and economic reality.[51]

We may conclude that through their interaction in the central and western Aegean islands and in the Cretan palaces, the emerging leaders of mainland centers were able to gain much wealth and to learn and adapt customs, technology, and administrative systems for use at home. These interactions are of fundamental importance for the formation of the Mycenaean palatial system of administration. The Mycenaean Greek script we call Linear B was developed from Minoan Linear A, probably around LH II (Ch. 1, p. 14).[52] In the realm of religion the Mycenaeans adapted much for their own use,[53] just as they appropriated the iconography of Minoan art to employ in their own frescoes, on pottery, and in other forms of symbolic expression (Chs. 11, pp. 259–61; 13, pp. 346–7, 352–3).[54] Once they established themselves at Knossos they probably were able to extend their control over other areas of Crete, as the Linear B documents indicate (Ch. 12, pp. 310–16).[55] It is not coincidence that this expansion is simultaneous with the founding of the palatial polities of the mainland of Greece and the extension of control over the Aegean islands and especially Rhodes. From this point on, Mycenaean society operated as an assemblage of autonomous polities that sometimes allied with one another for political and economic gain, while often competing and engaging in interstate warfare.

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11: Mycenaean Art and Architecture

Janice L. Crowley

Introduction

The culture of the Mycenaean Greeks can best be accessed through the tangible record they have left of their life and death in the four centuries from their emergence as a power at the end of the Middle Helladic period to the destruction of their palaces at the end of Late Helladic IIIB. Schliemann's first great archaeological discoveries at Mycenae in 1876 named both the civilization and the age of its supremacy. The great amount of gold in the deeply buried shaft graves immediately captured the world's attention, particularly the gold face masks. In one of these Schliemann thought he had looked upon the face of Agamemnon.[1] Archaeologists now know that the early date of the graves precludes such an identification and we no longer equate these finds with things mentioned in Greek legends and the epics of Homer. We realize that oral tradition and subsequent literature have many components, only some of which may carry memories or preserve details of the Mycenaean world – after all, the time span between the shaft graves and the Parthenon exceeds a thousand years. The decipherment of the Linear B texts as Greek in 1952 (Ch. 1, pp. 11–12) opened another window into the culture but, because of their limited subject matter, we are left without discussion of some of the most important aspects one would wish to know about a society. So the material remains provided by archaeological endeavors since 1876 are the primary source for our understanding of Mycenaean culture.

Early Mycenaean: Rich Life, Rich Death

Grave goods are the key art assemblages available for the Early Mycenaean period, LH I and LH II, as the buildings have mostly been obliterated by later structures (Ch. 10, pp. 245–8). Grave Circle B is the earlier of the two Circles at Mycenae, dating from the end of MH into LH I, and lies outside the citadel walls.[2] The finds comprise an electrum face mask, items in gold and silver, seals, bronze weapons and vessels, and pottery. Two exquisite pieces are an amethyst seal with the head of a bearded man (CMS I 5) and a rock crystal bowl in the shape of a duck with its head turned back.[3] Grave Circle A, just inside the main gate of the citadel, was in use throughout LH I, and held yet richer grave goods.[4] Even today the sheer amount of gold amazes visitors to the great Mycenaean Room in the National Museum at Athens. There are five gold face masks and a wondrous collection of gold diadems and jewelry. The many weapons are finely wrought. Sword blades carry chased designs of griffins and horses speeding along in a flying gallop,[5] and the grips are of gold and ivory or gold cloisonné set with rock crystal and blue glass.[6] **Niello** (a black metal sulfide adhesive) daggers are masterpieces of the minor arts. One shows a vibrant rendition of the animal attack theme: two cats catching birds in a river setting reminiscent of scenes set along the Nile in Egyptian art (Pl. 11.1).[7] Other daggers from Circle A show a lion hunt, lions running, a lion attacking deer, lilies, and interlocking spirals. These intricate designs, worked in gold and silver against the black niello background, have been described as "painting in metal," and only recently has technical analysis been able to show the level of metallurgical expertise needed for their manufacture.[8] The fine seals also, with their motifs worked in gold or carved intaglio in semiprecious stones, are pieces of consummate skill. The war duel on the gold cushion-shaped seal and the hunt duel with a lion on its pair seal (Pls. 11.2, 11.3) are powerful examples of the themes of warfare and the hunt which, together with the animal attack theme, will remain important in art throughout the Bronze Age and beyond. Choosing to focus the war and hunt themes on the duel of two great warriors or a great warrior and a lion of equal stature emphasizes the importance of personal bravery, the physical danger of the combat, and the need for powerful bodies.[9] All these are brilliantly conveyed by the climactic point of the action (the delivery of the death blow), the taut muscling of the bodies, and the play on the diagonals of the square seal face. Ostrich egg **rhyta** (ceremonial vessels) and

faience pieces, as well as the eastern motifs in some designs, show that an exotic element was also appreciated by the Mycenaean elite.[10] The Circle A grave goods also include large stone vases, imported pottery, and many fine vessels of distinctive shape in gold and silver. One of these, the silver Siege Rhyton, carries a wonderfully wrought repoussé design of warriors attacking a city; above a tricurved arch pattern representing the sea, invaders attack a walled city while the inhabitants watch in fear.[11]

Finds from other sites indicate that the rich life was enjoyed in wider circles than just the ruling families at Mycenae. A niello dagger with a leaping dolphin comes from a tomb at Prosymna in the Argolid.[12] **Tholos** tombs (round domed tombs; Fig. 13.2) in Messenia held a gold cup with repoussé interlocking spirals, and niello daggers showing leopards prowling and a seascape with **argonauts** (marine mollusks with spiral shells).[13] The Vapheio tholos in Laconia provided a pair of gold repoussé cups showing the capture of bulls,[14] as well as a magnificent collection of forty-three high-quality seals carrying detailed iconography (CMS I 219–61). One piece not found in a burial deserves special mention, the lovely Mycenae Ivory Triad.[15] Found adjacent to the north terrace but with no clear dating, it shows two richly clothed women and a child, its delicate modeling visible even in the back view and underneath. Some judge it an imported Minoan piece.

These early finds provide a very full record of rich life and rich death. The armorer's skill is represented at the highest level in the swords and niello daggers. All the minor arts are there – work in stone, metal, ivory, and faience, with the goldsmith's skill particularly prized. Virtually every motif used in the Mycenaean period can be seen in these pieces – exquisitely gowned women, animal attacks and animal studies, scenes and emblems of ritual, war, and the hunt, floral and foliate motifs, spiraliform designs and foreign motifs. These rich goods attest that the Mycenaeans strode onto the Aegean stage in Late Helladic I with a boldness and a taste for bright and beautiful accoutrements that set the tenor of the age to come.

Our particular concern here is to explain the high level of art suddenly observable at this time. Can it be homegrown Mycenaean art? Surely not. The long archaeological record of the Middle Helladic period with its basic buildings, functional pottery, and minimal grave goods does not prepare us for the sudden splendor of the Mycenae Grave Circle finds (Ch. 10, pp. 233–43). Where, then, is the source? The long rich artistic tradition of Minoan Crete encompasses all the skills of working in stone, metal, ivory, and faience needed to produce

the Early Mycenaean finds. Certainly the use of face masks is a mainland choice and probably the niello daggers too.[16] The predilection for spiraliform designs may come from an indigenous tradition; use of the spiral stretches from northern areas south into Greece, the Aegean islands, and Crete. Depictions of warriors and battle scenes have been identified as Mycenaean in spirit, but now that the **sealings** (lumps of clay impressed by a seal; Fig. 1.3) from Knossos, Ayia Triada, and Zakros are fully published, Crete does not seem so peaceful (CMS II.6; II.7; II.8). Arguments for an "emblematic" Mycenaean art using heraldic animals and artifacts as symbols do not sufficiently take into account the Minoan use of standard motifs such as the double horns or eight shield or cloak knot,[17] and do not give full recognition to the strength of formal design in Minoan art. So we must allow that, at this stage in the development of the Greek mainland, the high level of artistic output can only be explained by reference to Minoan art, an art admired and copied by the early Mycenaeans who had nothing of their own to match it (Chs. 9, p. 217; 10, pp. 251–2).[18] We will never really be able to establish beyond doubt whether these early masterpieces were Minoan imports, were made by Minoan artists on the mainland for Mycenaean commissions, or were made by Mycenaean artists trained in Minoan skills.[19] In fact, it really does not matter, because all three make a piece essentially a creation of Minoan art. The effort expended in past discussions trying to tease out the "Mycenaean" from the "Minoan" in these early pieces has produced no secure list of characteristics that can identify the Mycenaean component, though attempts to do so have deepened our appreciation of the art.[20] It seems much better to allow that a "Versailles effect"[21] produced the mainland efflorescence, and to speak of Aegean art, which (allowing for some island and some international elements) was overwhelmingly Minoan in inspiration down to the destruction of the Cretan palaces at the end of Late Minoan IB.[22] Only some time after those destructions did a true Mycenaean art evolve.

Citadels, Palaces, and Houses

The construction of large-scale buildings began in the Early Mycenaean period (Ch. 10, pp. 246, 249–51), but they were rebuilt and enlarged in LH IIIA and further extended in LH IIIB. Mycenaean palaces are known from Mycenae, Tiryns, Midea, Athens, Eleusis, Thebes, and Pylos, and excavations continue to seek the site of ancient Iolkos in Thessaly, where the sites of Volos and Dimini are the foremost

contenders (Ch. 10, p. 248). Domestic housing had been little known, but recent excavations and surveys have made it possible to examine the more humble abodes and so gain some appreciation of the populous Mycenaean world that reached its maximum extent in LH IIIB (Chs. 1, pp. 7–10; 12, pp. 306–8).

Most Mycenaean palaces (Fig. 11.1) are surrounded by great citadel walls and have at their center the **megaron** (below; an axial building unit consisting of main room with anteroom and/or porch), both points of contrast with the palaces of Crete (Fig. 6.5). Pylos differs from the norm in some construction techniques (Ch. 10, p. 250; Fig. 12.1) and in that no fortification wall has so far been uncovered.[23] The massive citadel at Gla is not a palace, in that it has no classic megaron, though it does have a residential building with two wings (Fig. 11.2). The Cyclopean walls of these citadels were huge undertakings. Great rough boulders (so large, thought later Greeks, that only a Cyclops or giant could move them) were piled up in parallel walls and packed between with earth and stones. At Gla the full circuit wall is 5.4–5.8 m thick and 3 km in length. It encloses an area of ca. 20 **hectares** (a hectare is 10,000 sq. m. or about 2.5 acres), making it far larger than any of the palatial citadels (Fig. 11.2). At Tiryns the southeast section of the wall is not solid but forms great casemates constructed as **corbelled** vaults (constructed of overlapping courses of blocks). Access and egress through the formidable walls was by the main gate, a secondary (or postern) gate, and sometimes a sally port, as at Mycenae and Tiryns (Figs. 11.3, 11.4). To ensure that the citadel had a secure water supply in times of siege, a covered staircase was built inside the fortification walls to reach down to the cistern, as at Mycenae and Athens.[24] Such measures were necessitated by the troubles that afflicted Greece in the later part of LH IIIB (Ch. 15, pp. 387–90).

Inside the great fortification walls the focus of the citadel was the megaron. In its classic form this is a complex of three rooms along the same axis: a porch with two columns leads through a vestibule into a large room with a hearth centrally placed; four great columns support the roof and a throne is set against a side wall. Plate 11.4 shows the remains of the throne podium from Tiryns. Also within the great walls were courtyards and buildings clustered around the megaron; these provided for the different needs of the rulers and their retainers. Caution is needed when identifying room function,[25] but some things are clear. There were living quarters, some with fine appointments like the suite at Pylos with a hearth (Room 46) and a bathroom with built-in bath (Room 43; Fig. 12.1; Pl. 11.5). Specialist areas include the

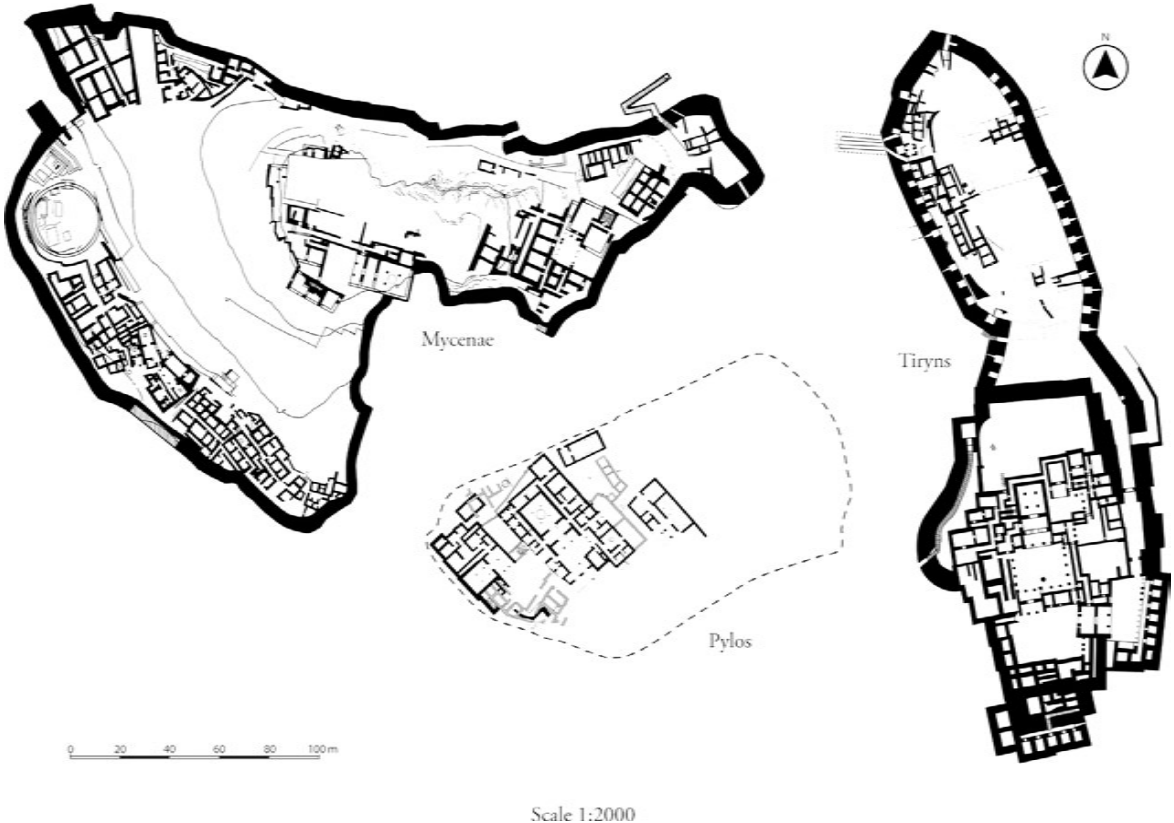

FIGURE 11.1. Plans of Mycenae, Tiryns, and Pylos palaces, at 1:2,000. After S. E. Iakovidis, *Late Helladic Citadels on Mainland Greece*. Leiden: E. J. Brill, 25 fig. 4 (Mycenae), 4 fig. 1 (Tiryns), 91 fig. 17 (Gla), and C. W. Blegen and M. Rawson, *The Palace of Nestor at Pylos in Western Messenia* I: *The Buildings and Their Contents*. Princeton: Princeton University Press 1966, Key Plan. Plans by Dan Davis.

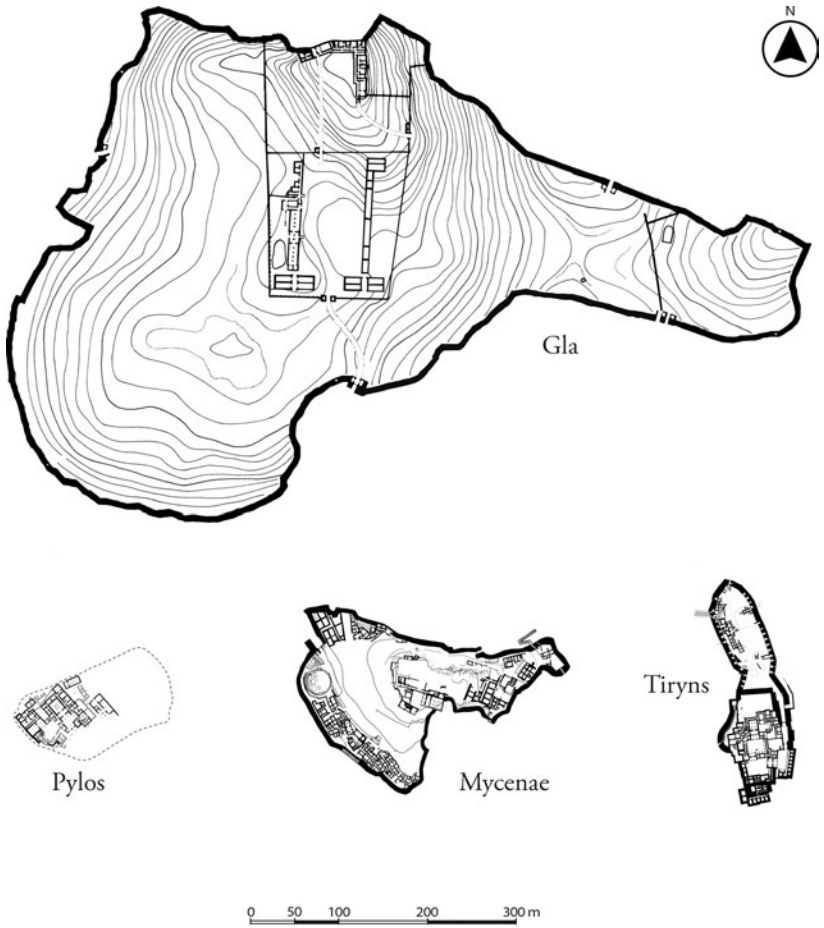

figure 11.2. Plans of Mycenae, Tiryns, and Pylos palaces and the citadel of Gla at 1:7,000. After S. E. Iakovidis, *Late Helladic Citadels on Mainland Greece.* Leiden: E. J. Brill, 25 fig. 4 (Mycenae), 4 fig. 1 (Tiryns), and 91 fig. 17 (Gla), and J. C. Wright, "Changes in Form and Function of the Palace at Pylos." In *Pylos Comes Alive*: *Industry + Administration in a Mycenaean Palace,* edited by C. W. Shelmerdine and T. G. Palaima. New York: Archaeological Institute of America 1984, fig. 2 (Pylos). Plans by Dan Davis.

shrine complex at Mycenae called the Cult Center (below, p. 270; Figs. 11.3, 13.7; Ch. 13, p. 352), as well as workrooms for the artisans and vast storage areas. The main rooms in all the palaces were painted with elaborate frescoes.

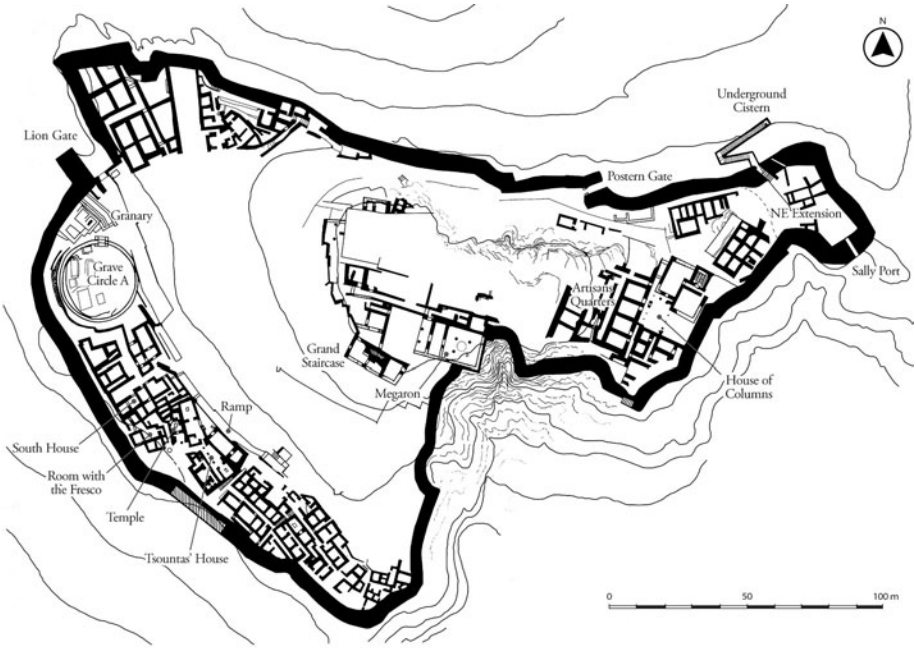

figure 11.3. Plan of Mycenae palace. After S. E. Iakovidis, *Late Helladic Citadels on Mainland Greece.* Leiden: E. J. Brill, 25 fig. 4. Plan by Dan Davis.

In LH IIIB the rulers at Mycenae completed a planned building program that included the rebuilding of the palace, the construction of a new citadel entrance with an enclosure for the Circle A precinct, and the erection of the greatest three tholoi on the road up to the citadel: the Treasury of Atreus (Fig. 13.2), the Tomb of Clytemnestra, and the Tomb of the **Genii** (fantastic creatures). Special treatment was accorded to the main gate. New walls of **ashlar** masonry (smoothed rectangular cut blocks) defended the approach, particularly on the right, and unshielded, side of any attackers. The gate itself comprised three huge blocks of stone placed in post and lintel construction with a relieving triangle above to divert the stresses away from the lintel and down the vertical side posts. This triangular space was occupied by the great Lion Relief (below, p. 269). The siting of the individual building units, their sheer size, and the choice of conglomerate ashlar masonry for their construction all make this one of the grandest undertakings of the Mycenaean period and one calculated to

impress all who approached the seat of power of the Mycenae **wanax** (king).[26]

More recent excavations of domestic housing in the Argolid and Messenia are beginning to explain how people outside the immediate royal entourage lived. Two LH IIIB housing complexes at Mycenae provide good examples. The Ivory Houses lie not far southwest of the citadel.[27] The four houses (West House, House of the Oil Merchant, House of the Sphinxes, and House of the Shields) are built in the usual Mycenaean mode: walls consist of a stone base and a plastered mud brick superstructure reinforced with a wooden framework. Fragments of white wall plaster, red floor plaster, and painted plaster were found throughout the debris, and their distribution indicates that work areas as well as living quarters were decorated with frescoes. The siting, architecture, decoration, and contents of these houses suggest that the occupants lived in wealth and comfort and worked closely with the palace elite. The contents of the four houses include some 18,700 ivory pieces that name the complex and more than 50 Linear B tablets testifying to administrative activity there.

The Panayia Houses are out on the ridge west of the citadel and near the Treasury of Atreus; three houses remain.[28] They show the basic courtyard and three-room unit of Mycenaean housing: a vestibule opening off a courtyard, a main room with hearth, and a rear chamber, all usually aligned on the same axis. The hearth would have provided heat and light and also cooking facilities. Fragments of painted plaster (red, blue, yellow, black, purple) suggest aspirations to a cultured life, but the house contents recovered show only a few fine pieces. All indications are that these buildings are private houses with no close links to the palace, and that the occupants were people of lower status than those living in the Ivory Houses. Nevertheless, they had sturdy homes with some comforts and possessions; small finds include seals, and objects of ivory, bronze, stone, and terracotta.

The stylistic **koine** (common style or language) that characterizes Mycenaean pottery (below, pp. 273–4) also applies to other genres, including architecture. Mycenaean rulers built their great palaces and furnished them with comforts, fortified their citadels with Cyclopean walls and siege constructions, and ensured that the industry of their subjects might both supply the palace and provide commodities for trade and princely gifts. There can be no doubt that in a Mycenaean state, the great citadel epitomized the power of the ruler. Visitors from one state to another would recognize both the same grand architecture and its meaning.

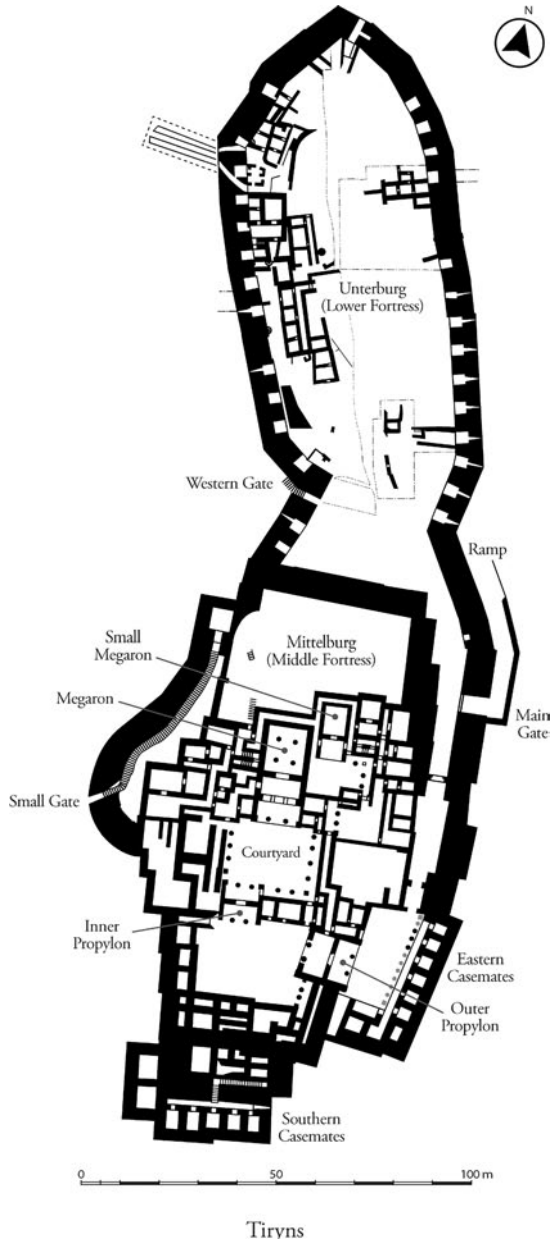

figure 11.4. Plan of Tiryns palace. After S. E. Iakovidis, *Late Helladic Citadels on Mainland Greece.* Leiden: E. J. Brill, 4 fig. 1. Plan by Dan Davis.

Tholoi, Roads, and Drainage

The koine for palace and house architecture extended to the tholos tombs and the major civil engineering works of roads and drainage. The tholos tombs are among the most eye-catching remains of the Mycenaeans. Like the Cyclopean fortification walls, many were visible in antiquity and were long since plundered of their grave goods even by Classical times. However, some collapsed early and thus remained undetected till the archaeology of our own time could reveal their rich finds. The most famous tholos is the Treasury of Atreus, sometimes called the Tomb of Agamemnon (Fig. 13.2).[29] The long **dromos** (entrance passage) leads to the main chamber through a great **stomion** (doorway), which would once have carried huge doors. The doorway itself is post and lintel construction like the Lion Gate and the sheer size of the three monoliths (the lintel is estimated to weigh 100 tons) commands the utmost respect for the builders who could maneuver such blocks into position. The main chamber is circular, 14.6 m in diameter, rising in a corbelled vault to 13.4 m in height, and it gives access to a small rectangular side chamber. The Treasury of Atreus, by its size and its high level of workmanship, is the culmination of the series of such tholoi that began in the Early Mycenaean period and continued into LH IIIA–B (Ch. 13, p. 337).[30] That so many of these tholoi are still standing after three thousand years is testimony to the knowledge and skill of the Mycenaean architects and engineers.

The most secure evidence for a Mycenaean road system so far comes from the Argolid, though sections of roads are known from Phokis, Messenia, and Boeotia.[31] Considerable engineering expertise is revealed in the knowledge of water flow and construction stresses in the building of road culverts and bridges, in the use of ground slope to help with road gradient, and in the construction of terraces to support the roadway. Indeed, the construction of stable terraces is one of the least appreciated of Mycenaean engineering techniques. In this mountainous terrain, almost any building work required some terracing for its foundations.

Mycenaean engineers also built dams and canals in extensive drainage projects.[32] Near Tiryns, the Manessi River caused a disastrous flood in late LH IIIB–early IIIC, so they built a dam and a canal to channel the river safely away to the south.[33] Near Thebes the most ambitious, and the most successful, drainage works of the Aegean Bronze Age were constructed to drain the Kopaic Basin and provide a

greatly enlarged arable area. An extensive system of canals and drains was laid out to channel the water from the many small rivers that regularly flooded the plain and to discharge it into bothroi (pits) and an underground tunnel and thence into the Euboean Gulf.[34] At Pylos the Mycenaeans excavated an artificial harbor.[35] To ensure that the port remained clear and deep, a constant flushing system was organized by diverting the flow of the Selas River, first through a lagoon to catch its silt and then through a channel cut in a low ridge so it could run through the port and thence to the sea.

The design and construction of the palaces with their fortification walls, storage areas, and secret cisterns show Mycenaean engineers at their most talented. Their understanding of building stresses led to their use of the corbelled vault and the relieving triangle. Their planning of the dams and canals reveals a sophisticated knowledge of water flow. All of these projects required both technical expertise and the ability to manage a large labor force – two hallmarks of the Mycenaean palatial state.

Sculpture, Frescoes, and Painting

Sculpture and painting for the Mycenaeans are preeminently architectural adornments. In sculpture, effort was concentrated on relief carving, improved in technique from the first awkward attempts of the Grave Circle steles, with their scenes of battle, lion hunts and chariots, and spiraliform designs.[36] A fine alabaster dado with triglyph and half rosette pattern, highlighted with blue glass inlays, graced the megaron vestibule at Tiryns.[37] The side chamber of the tholos at Orchomenos had a ceiling carved with interlocking spirals and double rosettes and the façade of the Atreus tholos at Mycenae was ornamented with running bulls and spirals.[38] The most famous sculpture of all is the Lion Gate Relief, yet the success of its antithetical composition and the sensitivity of the rendering of the lion limbs belongs to the expertise of seal carving (below, pp. 277–80). There is no clear evidence for monumental stone sculptures in the round, though an almost life-size female head from Mycenae in clay does suggest that there may have been large-scale clay statues or even wooden statues with clay heads.[39] The life-size clay statues of standing and dancing women excavated in the shrine on the island of Keos, however, have not found any parallels on the Greek mainland.[40]

Although Mycenaean stone relief sculpture is well known and often illustrated, it must be remembered that very few pieces are extant. Perhaps the Mycenaeans judged the labor required to chisel fine stone sculpture too time-consuming, and decided that more effect was produced more quickly by simply painting the walls. Certainly, fresco painting is an art that the Mycenaeans made their own.[41] Elaborate compositions are known from all the palaces and smaller works from private houses, but the evidence is often extremely fragmentary, and reconstructions need to be treated with extreme caution. The Pylos Palace is the best preserved.[42] At the propylon and the megaron portico all is a blaze of color in geometric patterns of blue, white, red, pink, yellow, and black.[43] In the megaron anteroom (Room 5) one sees a grand procession of human figures in two registers – women in flounced skirts and men in long robes, one of them far taller than the rest – in the company of a huge bull (Ch. 13, p. 353; Fig. 13.6). Straight ahead in the throne room (Room 6) is the great hearth, ringed with a running spiral and a flame pattern, rising centrally out of the floor, which is painted with squares of geometric patterns.[44] On the right is the throne itself, framed by antithetical pairs of magnificent griffins and lions. Also on the throne wall, groups of men feast, while a distinctively robed musician plays his lyre to them and charms a wondrous bird flying above. That no Mycenaean wanax has left a clear image of himself is rather surprising when we consider the power evoked by such displays as the Pylos megaron complex and its fresco iconography.[45]

The painting of a beautiful woman from Mycenae (Pl. 11.6), perhaps the finest and most delicately painted mainland fresco (though she has two right hands!), depicts traditional subject matter. However, recent finds from Mycenae expand the repertoire of fresco iconography with the scenes found *in situ* in the Cult Center (Ch. 13, p. 350).[46] In the main sequence (Pl. 11.7), two richly dressed female figures stand facing each other beside an elaborately decorated doorway. Between them a huge sword is placed point down and beside its blade two diminutive male figures hover, one with black skin and one with red. Of the two smaller frescoes below, one shows the Minoan motifs of the beam end frieze and the double horns whereas the other depicts a female figure holding up sheaves, rather in the stance of a Mistress of Animals figure as in Fig. 11.5f.

A late development of the painting technique is seen on the LH IIIB burial **larnakes** (clay coffins) from Tanagra (Fig. 12.4 shows a Cretan example).[47] The style may be crude but it is full of vigor.

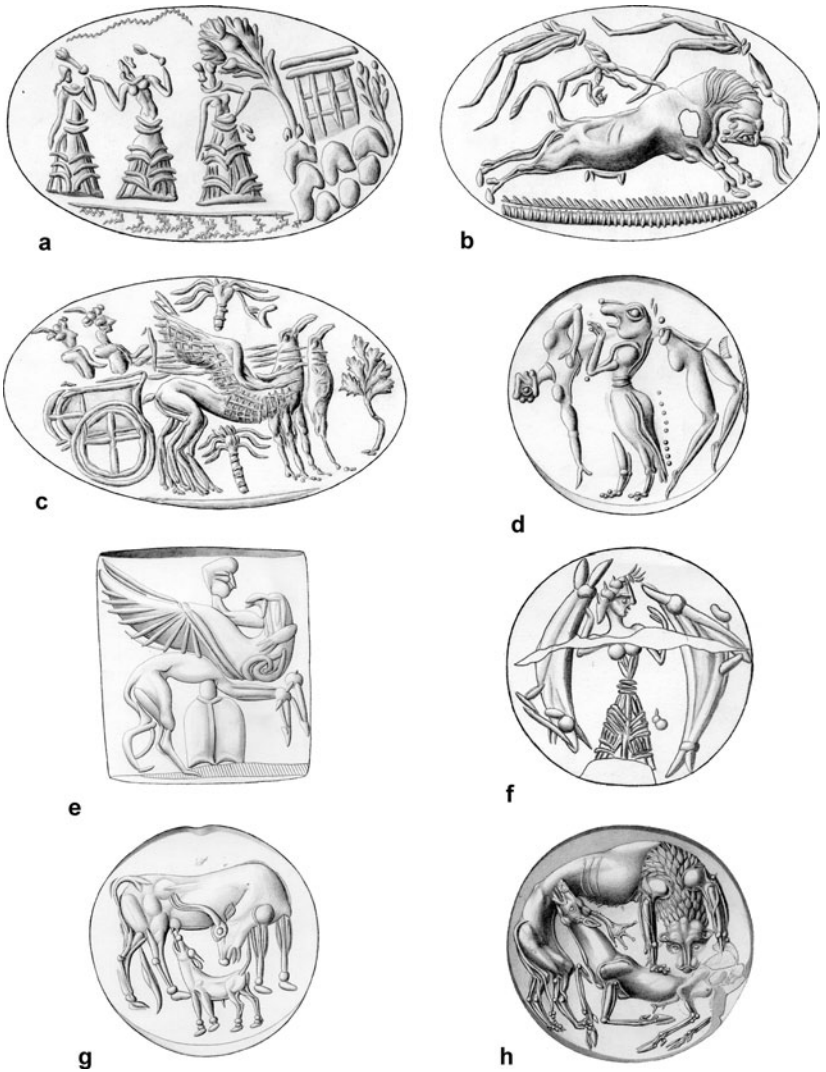

FIGURE 11.5. Mycenaean seals. Composite figure by Dan Davis. Courtesy of Ingo Pini. (a) Gold ring from Aidonia, Chamber Tomb 7, context LH II–IIIB. Three women in procession to a shrine. CMS VS 1B 114. (b) Gold ring from Antheia, Chamber Tomb 4, context LH IIIA1. Two leapers somersaulting over a bull. CMS VS 1B 135. (c) Gold ring from Antheia, Tholos, context LH I–IIIA. Two VIPs in a chariot drawn by griffins. CMS VS 1B 137. (d) Lentoid of gray stone from Patras, Grave 4, context LH IIIA1. Genius carrying a man as catch. CMS VS 1B 153. (e) Quadrilateral plate of translucent banded agate from Tiryns, Lower Town Room 218, context late LH IIIA. VIP with griffin familiar. CMS VS 1B 429. (f) Lentoid of translucent cornelian with gold finials from Aidonia, Chamber Tomb 8, dromos, context LH II–IIIB. Mistress of Animals with dolphins. CMS VS 1B 116. (g) Lentoid of brown white veined agate from Prosymna, Grave 33, context LH IIIA1–IIIB. Cow suckling its calf. CMS IS 28. (h) Lentoid of orange colored cornelian, said to be from Athens. Animal attack with a lion crunching the spine of a stag. CMS XI 42.

Some of the scenes develop out of the fresco tradition, but others show new subjects. The most important new motifs are funerary in theme: the pouring of the libation, mourning women, and the **prothesis** (mourning the deceased on a bier; Ch. 13, p. 338).

In painting, as in other endeavors, we can discern the Mycenaean koine. The subject matter retains much of the original Minoan iconography but treats it in a bold style – the simplicity of line and areas of bright color making a clear statement of Mycenaean taste. Near the very end of the Mycenaean ascendancy new subjects appear in a humble art form, the burial larnakes, and also in the pottery designs and terracottas (below, p. 274). We may ask why it took so long.

One issue raised very clearly by the frescoes is the continuing Mycenaean delight in color. We saw above (pp. 259–60), with the drinking ware, the niello daggers, and the seals of the earlier period, how much interest there was in the color of the metal or stone used. In textiles color means pattern, and this made the Aegean fabrics desirable as a trade item (below, pp. 276–7; Ch. 14, p. 365).[48] The manufacture of dyes is a complex process and would require workers with specialist skills. The Linear B texts refer to such workers, and indicate that some dyes were important substances; the adjective *wanakteros*, "royal," qualifies a purple dye worker or workshop.[49] Fresco pigments too required much effort to find and prepare.

Terracotta and Pottery

Some of the most interesting creations of Mycenaean society are the terracotta figures and figurines.[50] The figure from the Cult Center at Mycenae (Pl. 11.8) is about 30 cm. tall and shows details of clothing, jewelry, and hairstyle. The Cult Center held other figures, some with unusually painted faces, and also coiled snakes.[51] The terracotta figurines are smaller and hundreds of them are known from graves across the country. Their ubiquity is matched only by the inventiveness of the subject matter. The well-represented series of standing females about 10 cm. high falls into three basic types, named for their similarity to the Greek letters phi, psi, and tau, as illustrated in three figures from chamber tombs at Prosymna.[52] Sometimes a female figurine places her hand to her breast, and one holds a baby. Other females are shown seated or reclining in chairs, and one rides a horse side-saddle. Finally there are the animal representations, a little boar, many little bulls, even horses pulling a chariot. [53] Although these figurines are not great art, they are

nevertheless full of life and topical detail, and provide a refreshing look into the humbler side of life.

The making of fine pottery has long been judged one of the great skills of the Mycenaeans. Most of the pottery recovered from settlement excavations is plain domestic ware, usually coarse and gritty, testament to the innumerable meals that must be prepared to keep everyone fed. Only the finer decorated pottery is discussed here. Hard thin fabric, deftly thrown shapes, and elegant abstraction in ornament are features of the best LH IIIA and B ware.[54] Favorite shapes and the characteristic buff slip with red to black decoration are seen in the **kylix** (stemmed drinking cup) with whorl shells (Pl. 11.9), in the flask with birds, and in the amphoroid krater with chariot group and Mycenaean flowers.[55] Mention must also be made of Mycenaean pictorial pottery, which is found mostly in eastern ports, particularly Rhodes and Cyprus, though it seems sure to have been made in the Argolid (Pls. 15.5, 15.6 show examples of LH IIIC date).[56] Apart from favoring designs with bulls and chariot groups, the vases also show quite new subject matter, even compositions including humans and animals that seem to be on the verge of narrative art. One significant first is the depiction of Mycenaean ships, including an oared galley on each side of an amphoroid krater from Enkomi on Cyprus. Indeed, the Mycenaeans may have been the first to employ oared galleys.[57]

The terracotta and pottery creations are certainly part of the Mycenaean koine, but they raise another artistic issue for us – no less than the emergence of a true Mycenaean style. Early Mycenaean pottery shows the influence of Minoan prototypes on both shape and decoration, but by LH IIB an indigenous style was forming.[58] The clearest indicator of this trend is the increased use of the two-handled drinking cup, an MH shape, together with a simplification of decoration, as seen in the elegant LH IIB–IIIA1 Ephyrean goblets and later the LH IIIB Zygouries kylikes.[59] Other new shapes in LH III include the stirrup jar (Pls. 12.4, 15.4), for olive oil transport in particular, and the flask. The pottery still uses motifs that came originally from the Minoan floral, marine and spiraliform repertoire, but they are forever changed. The running spirals have slowed to a walk as curve-stemmed single spirals and the octopus can no longer swim with its tentacles arrayed in an antithetical pattern. The Minoan floral and foliate motifs, which grew as curling lilies or sinuous ivy, are now increasingly stylized or have had their elements reassembled into the Mycenaean flower. Now, Minoan living forms may have been forgotten, but what has been achieved through the standardizing of motifs and the organizing of the

designs into clear zones and panels is a simple and elegant effect.[60] Perhaps this creativity is due to the absence of control over the art content by the palatial elites.[61]

Particularly important are the LH IIIB innovations in iconography. Pottery decoration includes the human figure for the first time, and other pictorial motifs are now increasingly used, such as the horse and chariot and the ship, as well as animals and birds. The painted larnakes provide expanded funerary iconography, whereas the terracotta figurines give topical detail. It is as if the old iconography no longer satisfied the needs of the people and so they burst with inventiveness to show the things of most importance to them. We can at last see the Mycenaean artists trying to find a new iconographic vocabulary and a new artistic style to express their quintessentially Mycenaean spirit.

Stone, Metal, Ivory, and Faience

A survey of the minor arts in LH IIIA–B shows interest in working in a wide range of materials. Small-scale works in stone comprise household pieces such as containers and lamps. These pieces continue the tradition from earlier Mycenaean and ultimately Minoan times, but toward the end of LH IIIB fewer examples are known.

Skill in working metal – bronze and silver and gold – was always highly valued. The early examples of gold and silver vessels from the Grave Circles were followed in the next period by rich pieces such as the finds at Dendra. The gold octopus cup and the silver goblet with flying birds are examples of the finest repoussé work.[62] Mycenaean bronzesmiths wrought well-shaped household goods as well as strong and functional weapons of war. Cauldrons, vessels, and tools are found at all main sites, and smaller pieces such as mirrors, tweezers, needles, and **fibulae** (dress pins) are regularly found in burials. Mycenaean swords, spears, and arrow points are crafted with the best Bronze Age technology, and the Linear B documents give us some information about the role of smiths (Ch. 12, pp. 304–5).[63] Body armor and helmets are best known from the Dendra cuirass example and the boar's tusk helmet (below, p. 276; Pl. 11.10). No intact shields have been found, but Early Mycenaean illustrations show both the tower and eight shields in use.[64] Of horse and chariot equipment only small pieces such as the horse snaffle remain, though the detail is shown in frescoes and seal designs.[65] However, vessels in silver and gold are not so numerous in LH IIIA–B graves, and bronze also seems rather scarce by the

end of the period. The value of all metals and the fact that they can be melted down and reused suggests that they were recycled by later generations and lost to the archaeological record, but there are other signs of a gradual impoverishment toward the end of LH IIIB (Ch. 15, pp. 387–90).

Ivory carving is a skill at which the Mycenaeans excelled, and there is considerable interaction with ivory carving in the Eastern traditions.[66] Small three-dimensional pieces such as the man's head from Mycenae (Pl. 11.11) and the warrior heads from Mycenae and Sparta show rather stylized faces and hair treatment.[67] Ivory reliefs are more numerous and more inventive in composition. A **pyxis** (small box) from Thebes is carved with sphinxes, splendid in their mirror reverse heraldic poses.[68] Another pyxis from Athens shows an animal attack; the flying gallop emphasizes the power and speed of the predator griffins, and the contorted poses portray the terrified collapse of the deer prey;[69] the treatment of the lion predator and deer prey on the seal illustrated in Fig. 11.5h is similar. Mirrors have handles of ivory carved in the shape of gorgeously gowned women and warriors dueling griffins and lions.[70] Ivory inlays hint at fine wood furniture that has not, alas, survived. Such, no doubt, would be the use of the ivory pieces from the Ivory House at Mycenae, the pieces from Tholos III at Pylos, the small eight shield, and the magnificent griffin from Megiddo in Syria.[71] Careful carving, economy of design, and the vitality of the animals and fantastic creatures make the ivory pieces some of the best Mycenaean art.[72]

Items of faience are found throughout the Mycenaean period: vases, plaques, bowls, modeled items, beads.[73] Many are clearly imports, from the Minoan pieces in the shaft graves to the Egyptian "crocodiles" in the Perati Cemetery (Ch. 14, p. 379). It is harder to establish whether there was a Mycenaean center of faience production in LH IIIA–B. The beads would seem to be local and a lion and griffin fragment from the House of the Shields at Mycenae echoes the pairing on the Pylos throne room fresco, but some regard the faience vessels from Mycenae as Eastern imports.[74] Mention should also be made here of the increasing use of glass in LH IIIB. Glass seals and blue glass jewelry were mass produced and we even have some of the molds used to make such pieces.[75]

One of the most fascinating aspects of Aegean art is its relationship with the older artistic traditions to the east, in particular the seminal ones of Egypt and Mesopotamia.[76] Minoan art had many links with the east and Mycenaean art was heir to that, taking up the Minoan

modified genius (Ch. 7, p. 168),[77] sphinx, and griffin (below, pp. 279–80). However, influences were also moving from west to east, and in LH IIIA–B the Mycenaeans contributed to these, particularly in ivory carving.[78] Participation in artistic interconnections should be seen in the great Mycenaean interest in foreign imports and in their own activities abroad, as well as in their use of motifs from the international repertoire in this International Age.[79] This style owes at least one of its features to Mycenaean art – the economy of design seen in pieces such as a gold Chariot Bowl from Ugarit in Syria.[80]

Weaponry, Armor, Clothing, and Jewelry

In war and in peace the Mycenaean lords were splendidly arrayed. Weapons, jewelry, and fine clothing are complemented by the images chosen to decorate their personal possessions.[81] The great warrior buried in the Cuirass tomb at Dendra had a bronze suit of armor with boar's tusk helmet (Pl. 11.10), a set of bronze greaves, bronze daggers, and two ceremonial swords of bronze, ivory, and gold.[82] Silver toggle pins and gold-plated bronze buttons must have belonged to other rich clothing, probably like the colorful robes we see in the Pylos frescoes.

In citadel and town the Mycenaean lady was elegantly gowned for her duties in ritual and procession. The fresco from Mycenae (Pl. 11.6) shows a lady in a dress with an elaborate bodice, with her hair stylishly coiffured and wearing necklaces and bracelets. Just such jewelry has been preserved in many examples from burials across the Mycenaean world. Depending on the form, this jewelry could be made of gold, such as the lily and papyrus necklace from Dendra (Pl. 11.12), or of amber or any of the semiprecious stones such as amethyst, cornelian, agate, chalcedony, rock crystal, or lapis lazuli.[83] By the end of LH IIIB, the artificial compositions of faience and glass were increasingly used for beads and necklaces. In the large display cabinets in the Mycenaean Room in the Athens National Museum, the gold diadems, hairpins, and necklaces immediately speak of rich adornment. If amber did not suffer so much from its long time in the soil, the great amber necklaces with their warm glow might be the most impressive, just like modern-day examples.

It is a pity that in the Aegean leather, wood, and textiles are not readily preserved in the archaeological record as they can be in the dry climate of Egypt, though the Mycenaean tablets do tell us of their value and give us an indication of what has not survived. For textiles we have

some evidence in the archaeological record.[84] Copious numbers of spindle whorls testify to the production of thread and the many loom weights show that the Aegean belonged to the European weaving tradition of the warp-weighted loom (Ch. 6, pp. 160–61). We know from the frescoes and terracottas that color and pattern were prized. Finds from the Mycenae shaft graves such as gold discs and animal shapes with their holes for stitching and the thousands of small faience beads from the Dendra tholos, suggest sequin and beading techniques. The Linear B texts record the growing of flax and the shearing of sheep as well as the production of linen and woolen fabric and indicate that rations for the women weavers were regulated (Ch. 12, pp. 305–6). In the absence of the fabric itself, we need this peripheral evidence to see how important the textile industry was to the Mycenaeans – and how labor-intensive it was. In preindustrialized societies the production of cloth took up a great deal of time and energy, with the spinning and weaving almost always done by women. Considering too the creativity needed to produce the finest patterned cloth, it is no wonder that specially woven pieces might come to be imbued with almost magical properties.

Finally, we look to the bath, to the perfumes and oils used to prepare the body before robing and to the small utensils needed for grooming, such as pins, combs, and cosmetic spoons. All show that Mycenaean lords and ladies took great time and trouble over their appearance. In addition, the making of perfumed oil for local use and export was an important industry (Ch. 12, p. 304).[85]

Every part of the personal adornment of high-ranking Mycenaeans – fabric, jewelry, perfume, oils, armor, weapons – speaks of power. It takes power to control the land so that it provides more than simple sufficiency in food, linen, wool, and oil, to mine for silver and gold, and to maintain access to all the exotic foreign goods such as ivory and lapis lazuli. Just as the Mycenaean citadels crowning the heights proclaimed the power of the rulers to all their subjects, so their splendid dress and accoutrements proclaimed their power in person.

Seals and Iconography

Seals have already been discussed as one of the finest of the Minoan arts (Ch. 6, p. 159), even the initiative art form whose experimentation and creativity inspired compositions in the other media.[86] The Mycenaeans too wore seal jewelry, as seen on the wrist of the lady with sheaves

(Pl. 11.7), and the many sealings found at palace sites attest to their administrative use (Chs. 1, pp. 12–13; 12, pp. 295–6). The manufacture of hard stone seals had ceased by LH IIIB, however, and late seals were either carved in soft stone or molded from glass (CMS XII 262 is such a mold). It seems that these late seals were not regularly used for sealing purposes, and that the palace sealings must have been made with heirloom pieces.[87]

Eight mainland examples give a Mycenaean perspective on seals (Fig. 11.5). Seven are from excavations; their contexts range from LH I to LH IIIB but they may have been made much earlier than their deposition dates. Each is shown as a drawing of its impression. The originals are about the size of a thumbnail; the design is cut intaglio into the colorful gemstone or recessed in the gold ring bezel. The designs are carefully fashioned and the composition perfectly complements the shape of the seal face – oval, circle, or square. Each specific iconographic motif belongs to an overall theme, which can be examined for links back to the images of Neopalatial Crete and across to the images of the favorite Mycenaean artistic media in LH IIIB – frescoes, ivory carving, and pictorial pottery.[88] Where we can establish a widespread and continuing usage in Mycenaean art, we can accept that the iconography has become Mycenaean even though it may have originated in Minoan art.

The image of women in flounced skirts in procession (Fig. 11.5a) is one of a series of peaceful scenes where both women and men are seen approaching or standing before an altar or building or before a very important person.[89] Such images are seen in the Knossos procession frescoes and on sealings from Zakros (CMS II.7 1, 8). Eventually the procession of women becomes a favorite subject for life size frescoes in the Greek mainland palaces.

Two leapers somersaulting the bull in a flying gallop (Fig. 11.5b) are unusual, but the bull sports theme is treated on several seals from the mainland and finally becomes the subject of frescoes at Pylos and Tiryns.[90] It is, of course, the most Minoan of all subjects and is known from the Knossos frescoes and from many exquisite examples of glyptic art (Ch. 7, pp. 180–81; CMS II.6 44).

The chariot group is a significant motif. The horse is the usual harness animal, as on the Minoan seals and sealings, but goats and griffins are known, as in Fig. 11.5c and on the Ayia Triada sarcophagus from LM III Crete (Ch. 7, pp. 181–2).[91] It goes on to become a favorite image on Mycenaean pictorial pottery (Pl. 15.6 shows an example of LH IIIC date). The chariot as a motif belongs to the twin themes of

war and the hunt. Neopalatial seals from Crete carry many portrayals of hunters, warriors marching and fighting, eight shields, and plumed and boars' tusk helmets (CMS II.8 276). War and hunt images also abound on the Greek mainland from the Mycenae shaft graves (Pls. 11.2, 11.3) to the later frescoes.[92]

Figures 11.5c–e show the exploits of the griffin and the genius, those fantastic creatures we see actively hunting or in heraldic poses in the Minoan seals and sealings (CMS II.7 31). Griffins are everywhere in Mycenaean art, shown in flying gallop pose on blades from the Mycenae shaft graves, attacking deer on the Athens pyxis, and doing guard duty with lions on frescoes by the Pylos throne. The "Griffin Lady" (Fig. 11.5e), portrayed in the "VIP with familiar" motif (that is, in close relationship with an animal familiar), invites comparison with the one in the fresco from the Cult Center at Mycenae (above, p. 270).[93] The genius is often the victorious hunter in the "carrying the catch" scene on seals (CMS IX 129), but in this exceptional portrayal (Fig. 11.5d) the catch is a man, not an animal.

Fig. 11.5f shows a compositional device known as the antithetical group, which can be seen on the earlier Minoan sealings too (CMS II.8 256). It is used here to depict the Mistress of Animals, a favorite seal motif, but one that does not seem to translate to a popular fresco subject. Here the attendant animals are dolphins, but they are more usually griffins, lions, or birds. The antithetical group is also used to depict the animals at the tree of life motif (CMS I 58), or its Aegean variant the animals at the grand pillar (CMS I 218), which provides the template for the famous Lion Relief.

The last two seal designs show the great Aegean interest in animal portrayals, whether peaceful animal studies such as the suckling scene in Fig. 11.5g or depictions of terror and pain such as the animal attack scene in Fig. 11.5h. The seal animals are living creatures, shown in convincing naturalistic portrayals, and some of this life and energy is transferred to the Mycenaean ivory reliefs, though not to the animals and sea life in the palace frescoes.

This briefest of surveys indicates that the Mycenaeans continued to use, in different media, much of the complicated iconography of the Minoan seal and fresco repertoire, including processions, scenes of war and the hunt, fantastic creatures, animals, and sea life. However, they did not take up some of the most striking Minoan images, such as "pulling the tree" and "kneeling the boulder" scenes[94] (CMS II.3 114; Chs. 7, p. 159; 13, pp. 346–7). Mycenaean women are shown wearing Minoan flounced skirts, but by LH IIIB, bodices covered their

breasts, and we do not see women in the long diaphanous pants of the Minoan seals (CMS II.6 35). The eight shield and the war helmet remained powerful symbols, but the cloak knot and the horn bows were lost.[95] The genius, griffin, and sphinx became thoroughly Mycenaean, but the dragon and the monkey never really left their Cretan domicile.

It appears then that the Mycenaeans were quite selective in what they took from the rich Minoan iconographic vocabulary. They left behind the images closely associated with Minoan nature religion but took up, and kept using to the end, those images which they saw as associated with Minoan prestige and power.[96] This selectivity on the part of the Mycenaean elites who are doing the choosing[97] points to two conclusions about Mycenaean iconography. First, the Mycenaeans must have chosen images conducive to their outlook, so it is likely that the meaning is not much changed when used on the Greek mainland. Second, the Mycenaean elites had a vested interest in keeping alive the images of Minoan power and prestige, because these images proclaimed them legitimate heirs to the grandeur of the Minoan tradition. Only such a preference can explain the extremely slow rise of indigenous iconographic motifs. Similarly, only such a predisposition can explain the use of images such as bull leaping three centuries after the spectacle likely ceased in Crete. Yet, the peril to the leaper in the confrontation with the bull, so evident in the Minoan portrayals, is not shown and the true hunt and war dueling motifs with all their mortal danger are not continued beyond the early period. These scenes of personal prowess and bravery give way to scenes where the Mycenaean rulers are distanced from injury, driving their chariots or performing in processions or enjoying banquets. The warrior chieftains who forged the Mycenaean states may have identified with the victorious duelist, but the later rulers desired images of power and control.

Summary

After 400 years of Mycenaean ascendancy, how did the Aegean look from Thessaly to Crete and Ithaka to Rhodes? A Mycenaean koine extended from the shaping of the landscape to the creation of standard pottery wares. Palace citadels with their colorful halls crowned the heights, the plains were drained, and roads and harbors were built. The land was populous and very productive under the careful control of the

palaces, and rich goods were traded overseas for raw materials and exotica that increased the prestige of the Mycenaean elite (Ch. 14). Not all regions developed into palatial states, and there was certainly regional variation; Crete in particular offers an interesting blend of inherited and mainland-imported features (Ch. 12, pp. 310–18). Throughout the Greek mainland and many of the islands, however, the material assemblage undeniably reflects Mycenaean culture.

When the Mycenaeans first stepped onto the world stage they did not have, metaphorically speaking, the right clothes to wear. Whatever simple wherewithal sufficed for their gray Middle Helladic life, it would not do for their new power base nor for their aspirations to be counted on a level with the great rulers to the east. However, by LH I, there was already an extensive wardrobe immediately available, comprising the wonderful creations of Minoan Neopalatial art. Nothing was wanting – clothes of rich fabric, jewelry and seals, weapons and armor, vessels of precious metal, and every craft worked at the highest level by artists trained in the traditions of a thousand years. The array was so rich and so all-encompassing, with an appropriate piece for every occasion and established iconography to cover every meaning, that the Mycenaeans were able to choose what they wanted and it was a long time before they found the wardrobe lacking. Indeed it seems that the Mycenaean elite actively encouraged the use of certain Minoan dress and selected artistic motifs as a statement of their legitimate authority, as though they saw themselves as heirs to the great power and civilization of Minoan Crete.

However, gradually a Mycenaean style did emerge as the Mycenaeans changed the Minoan trappings to suit their own tastes better and, finally, introduced new iconography. They specialized in the abstraction of floral and marine forms to create a new decorative style, elegant in its simplicity. They raised the animal study and animal attack to a new level of realism. They transformed the griffin and the lion into grand symbols of their own aggressive power. They chose human activities as a central subject for art rather than the world of nature. Their battle scenes, horses, and chariots reveal their desire to be part of the international warfare scene of the Late Bronze Age. Finally, the earthy detail of their new iconography gives us the pathos of women mourning and the solemnity of death in the prothesis, both subjects that would be taken up more strongly after the destructions of LH IIIB (Chs. 13, p. 338; Pl. 15.7, p. 404; Pl. 13.2).

Mycenaean style aims for functionality and effect. Great citadels, bright fresco compositions, and the efficient weaponry unambiguously

proclaim power. Mycenaean art and architecture at their best show an economy of design to match the need, whether building dams or making pottery, and the best is very fine indeed. Interest in innovation comes late but with telling effect. Bold, colorful, and on a grand scale, Mycenaean art and architecture truly reflect the spirit of the age.

Suggestions for further reading

Barber, E. J. W. *Prehistoric Textiles: The Development of Cloth in the Neolithic and Bronze Ages with Special Reference to the Aegean*. Princeton: Princeton University Press 1991.

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Iakovidis, S. E. *Late Helladic Citadels on Mainland Greece*. Leiden: E. J. Brill 1983.

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Krzyszkowska, O., *Aegean Seals: An Introduction*. BICS Suppl. 85. London: Institute of Classical Studies 2005.

Poursat, J.-Cl. *Les ivoires mycéniens: Essai sur la formation d'un art mycénien*. Bibliothèque des Écoles françaises d'Athènes et de Rome, fascicule 230. Athens: École Française d'Athènes 1977.

Notes

1 S. Marinatos and M. Hirmer, *Crete and Mycenae.* London: Thames and Hudson 1960, 162, pl. XXXIV. Schliemann described the 1878 publication of his Mycenae excavations (below, n. 4) as "This account of Discoveries made at Mycenae and Tiryns, tending to illustrate the Poems of Homer . . . ." He was echoing yet earlier explorers as far back as Pausanias (*Description of Greece* II.16.5–7; II.25.8) in the second century CE.

2 G. E. Mylonas, *Ho taphikos kyklos B tōn Mykēnōn*. Vivliothēkē tēs en Athēnais Archaiologikēs Hetaireias 73. Athens: Hē en Athēnais Archaiologikē Hetaireia 1972–1973.

3 Marinatos and Hirmer 1960 (above, n. 1), pl. 212.

4 H. Schliemann, *Mycenae*: *A Narrative of Researches and Discoveries at Mycenae and Tiryns.* London: John Murray 1878; G. H. Karo, *Die Schachtgräber von Mykenai*. Munich: F. Bruckmann 1930–1933.

5 The flying gallop shows the legs at full stretch and clear of the ground. It creates a memorable image of speed and power and is one of the most distinctive creations of Aegean artists.

6 Karo 1930–1933 (above, n. 4), pls. LXXXVI, XCII, LXXV–LXXVIII, LXXXVII–LXXXVIII.

7 L. Morgan, *The Miniature Wall Paintings of Thera: A Study in Aegean Culture and Iconography.* Cambridge: Cambridge University Press 1988, 146–50.

8 M. Boss and R. Laffineur, "Mycenaean Metal Inlay: A Technique in Context." In *TEXNH: Craftsmen, Craftswomen and Craftsmanship in the Aegean Bronze Age*, edited by R. Laffineur and P. P. Betancourt. Aegaeum 16. Liège and Austin: Université de Liège and University of Texas at Austin 1997, I, 191–7.

9 Lions in Bronze Age Greece are attested by bones found in dated contexts. For the Mycenaeans they are both predators and emblems of power: E. F. Bloedow, "On Lions in Mycenaean and Minoan Culture." In *EIKON: Aegean Bronze Age Iconography: Shaping a Methodology,* edited by R. Laffineur and J. L. Crowley. Aegaeum 8. Liège: Université de Liège 1992, 295–305; M. L. Lang, *The Palace of Nestor at Pylos in Western Messenia* II: *The Frescoes*. Princeton: Princeton University Press 1969, 99–103.

10 Ostrich eggs and faience: Karo 1930–1933 (above, n. 4), pls. CXLI–CXLII, CXLVIII, CLI–CLII. Eastern motifs: J. L. Crowley, *The Aegean and the East: An Investigation into the Transference of Artistic Motifs between the Aegean, Egypt, and the Near East in the Bronze Age.* SIMA Pocket-book 51. Jonsered: Paul Åströms Förlag 1989, 230–40.

11 Marinatos and Hirmer 1960 (above, n. 1), pl. 174.

12 Marinatos and Hirmer 1960 (above, n. 1), pl. XXXVIII.

13 Marinatos and Hirmer 1960 (above, n. 1), pls. XXXVIII, 171.

14 Marinatos and Hirmer 1960 (above, n. 1), pls. 178–85; E. N. Davis, *The Vapheio Cups and Aegean Gold and Silver Ware.* New York: Garland 1977.

15 A. J. B. Wace, *Mycenae: An Archaeological History and Guide*. Second edition. New York: Biblo and Tannen 1964, 83–4, figs. 101–3.

16 O. T. P. K. Dickinson, "Arts and Artefacts in the Shaft Graves: Some Observations." In Laffineur and Betancourt 1997 (above, n. 8), 45–9. No niello daggers are known from Crete, but one was found on Thera: E. D. T. Vermeule, *Greece in the Bronze Age.* Fifth printing. Chicago: University of Chicago Press 1972, pl. XIII C.

17 These are the author's short descriptive terms for the "Horns of Consecration," "figure of eight shield," and some of the "sacral knots."

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30 W. G. Cavanagh and C. Mee, *A Private Place: Death in Prehistoric Greece.* SIMA 125. Jonsered: Paul Åströms Förlag 1998, 44–6 and Fig. 5.2 (LH I–II); 63–4 and Fig. 6.2 (LH IIIA–B).
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33 E. Zangger, "Landscape Changes around Tiryns during the Bronze Age." *AJA* 98 (1994) 189–212.
34 J. Knauss, B. Heinrich, and H. Kalzcyk, *Die Wasserbauten der Minyer in der Kopais: Die Älteste Flussregulierung Europas.* Munich: Technische Universität München 1984.
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N. Marinatos. Acts of the Swedish Institute at Athens 4°, XXVIII. Stockholm: Swedish Institute at Athens 1981, 133–4 [127–35].

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44 Blegen and Rawson 1966 (above, n. 43), Part 2 Frontispiece.

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Mycenaean Decorated Pottery. Deutsches Archäologisches Institut. Rahden: Marie Leidorf 1999.

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59 Mountjoy 1986 (above, n. 54), 37, 93.

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82 P. Åström, *The Cuirass Tomb and Other Finds at Dendra 1: The Chamber Tombs*. SIMA 4. Göteborg: Paul Åströms Förlag 1977; S. Deger-Jalkotzy, "Military Prowess and Social Status in Mycenaean Greece." In Laffineur 1999 (above, n. 18), 126 [121–31].

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87 One recently found sealing, however, had been impressed by a Mainland Popular seal carrying the characteristic design of a quadruped: Ingo Pini, personal communication.

88 Proposals for standard iconographic terminology have been made by J. G. Younger, *The Iconography of Late Minoan and Mycenaean Sealstones and Finger Rings*. Bristol: Bristol Classical Press 1988; M. Wedde, "Pictorial Architecture: For a Theory Based Analysis of Imagery." In Laffineur and Crowley 1992 (above, n. 9), 181–203; J. L. Crowley, "ICONAEGEAN: Classification and Database of Aegean Glyptic." In Müller 2000 (above, n. 81), 15–26.

89 This useful term, abbreviated VIP, allows us to describe the difference in status of the figures in the image without necessarily having to interpret the important figure as priestess, priest, queen, king, goddess or god.

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91 C. Long, *The Ayia Triadha Sarcophagus: A Study of Late Minoan and Mycenaean Funerary Practices and Beliefs*. SIMA 41. Göteborg: Paul Åströms Förlag 1974.

92 Immerwahr 1990 (above, n. 41), pls. 64, 65 (Mycenae); 66, 67 (Pylos); 68, 69, 70 (Tiryns).

93 Demakopoulou 1988 (above, n. 52), pl. 149.

94 The descriptive terms "pulling the tree" and "kneeling the boulder" are the author's designation for these two enigmatic Minoan compositions.

95 Cloak knot: above, n. 17. "Horn bows" is the author's descriptive term for the **snake frame** (Minoan headgear with wide curving horns; Ch. 7, p. 168); CMS II.7 186.

96 Though in Minoan Crete these were never overt: Davis 1995 (above, n. 45); J. L. Crowley, "Images of Power in the Bronze Age Aegean." In *POLITEIA: Society and State in the Aegean Bronze Age*, edited by R. Laffineur and W.-D. Niemeier. Aegaeum 12. Liège and Austin: Université de Liège and University of Texas at Austin 1995, II, 475–91; J.G, Younger, "The Iconography of Rulership in the Aegean: A Conspectus." In Rehak 1995 (above, n. 45), 151–211.

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12: Mycenaean States

12a: Economy and Administration

Cynthia W. Shelmerdine and
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Introduction

Mainland Greece in the Early Mycenaean period (LH I–II) was home to a number of political centers competing for resources, power, and territorial control (Ch. 10, pp. 242–51). By the beginning of LH III the most successful developed into full-fledged states, political structures administered from central places of power. These central places are marked archaeologically by the monumental buildings we call palaces (Fig. 11.1; Ch. 11, pp. 261–4), and in most cases by administrative records inscribed on clay tablets in an early form of Greek. Recent scholars prefer "state" or the even more neutral "**polity**" (politically organized society) to the older term "kingdom," to avoid possibly misleading presumptions about internal political organization. Palace-centered states were not universal in Mycenaean Greece; regions such as Achaea and Laconia apparently never developed a monumental center like Mycenae or Pylos. These areas may have continued to operate at the level of the Early Mycenaean village-centered societies, outside the control of any particular center; and indeed they benefited from the collapse of the palatial administrations ca. 1190 BCE, at the end of LH IIIB (Ch. 15, pp. 395, 397–9, 405–6). We do know something about a number of Late Mycenaean states, however, particularly those controlled from Mycenae and Tiryns in the Argolid, Thebes in Boeotia, Pylos in Messenia, and Knossos on Crete.[1] Our understanding of how these states functioned is greatest, of course, where we can bring both archaeological data and texts into play. On both counts Pylos and its

Messenian territory are best documented, so it will provide our pathway through the intricacies of Mycenaean politics and administration, supplemented by information from other centers.[2]

Palatial Centers

The word "palace" is properly an architectural term referring to the monumental structure that defines and dominates the administrative center of a state. Often, however, the term is loosely applied to the central site as a whole ("Pylos is a palace") or to the administration that operated there ("the palace collected taxes"). These multiple uses stem from an ambiguity in the word. It is both an *architectural* label for a physical space, containing structures with a particular form, and a *social* term referring to a particular social entity, a configuration of political and economic power, focused on a single center with some degree of control over subordinate settlements within a more or less extensive territory. In this sense it is used broadly as a label for the range of societies that existed in Mesopotamia and the eastern Mediterranean, with which Cretan and mainland Greek palatial societies shared a generic similarity.

Elements of the palatial social entity first appeared in the Early Mycenaean period, when competitive elites vied for power through the acquisition and display of exotic materials and knowledge (Ch. 10, pp. 244–50). In LH IIIA came the stabilization of a palatial social organization and the institutionalization of power structures, formalized and materialized in the first monumental "palatial" buildings. It is tempting to see this "institutionalization" as a product of a more direct engagement with Cretan polities, particularly Knossos, where techniques of administration and statecraft developed much earlier (below, p. 312; Chs. 5, pp. 116–18; 7, pp. 173–9). We can legitimately refer to these more formal organizations as states, with an office-holder, the **wanax** (king), at their head. In contrast to the "Big Man" societies of the early Mycenaean period (Ch. 10, pp. 238–51), dependent on personal prestige and kinship connections, the office of wanax was more important than the particular individual who held it. From their palatial centers the wanaktes mobilized resources, human and material, to fulfill the needs of a political economy.

Authority within these states operated both vertically, from the wanax through various levels of the elite with close ties to the center down to the myriad farmers and craftsmen that occupied the lower levels of society, and horizontally, over an extensive territory comprising

towns, villages, and hamlets of varying sizes. Although it is tempting to think of such territories as being bounded like those of modern states, there is no compelling evidence that boundaries were clearly fixed. Equally, we should not necessarily think of palace-controlled interests as being continuous across entire regions; rather, palatial involvement seems to have varied depending on the type of activity (below, pp. 295–303).

Finally, we should be aware of the fourth dimension, time. These states drew on their history as an element in supporting authority. The palatial buildings, as materializations of the political organization, acted as focal points for regular ceremonies involving feasting, sacrifice, and oral poetic performance (below, p. 298; Ch. 13, pp. 353–4). In this way, the social institution took physical form in a set of similar palatial structures throughout much of the "Mycenaean" world (Fig. 11.1): the **megaron** (an axial building unit consisting of a main room with anteroom and/or porch) at its core, surrounded by storage and workshop space, bounded in many cases by monumental fortification walls, within a landscape containing monumental burials in **tholos** tombs (round domed tombs; Fig. 13.2) and, in some cases, public works such as roads or water-management systems (Ch. 11, pp. 268–9). The common design of mainland palaces shows that however independent the Mycenaean states were, they agreed on the proper setting and context for administrative power. Within the building complex, the axial arrangement of the megaron drew visitors toward the seat of authority: the throne emplacement found along the right-hand wall of the main hall at Pylos and Tiryns (Pl. 11.4) must have been for the wanax mentioned in the texts.[3] Towering citadel walls were added to most of the palace complexes during LH IIIB, surely for defense, but they also symbolized the king's power at a time when it may have been under threat (Ch. 15, pp. 388–9).

Administrative Records

The Mycenaean palaces were redistributive centers, into which commodities moved from territory to center in the form of taxes, obligatory donations, trade, and gifts. Some goods were stored at the center; others may have passed into central control and been monitored there, though they did not actually travel (below, pp. 301–2). In turn, resources were then disbursed as payment or subsistence for workers, offered to deities, distributed to workers for specific jobs, and so on. Because the palace

dictated the commodities that traveled, and in what quantities, and controlled their modification into products, this economy is often termed a "command economy," and the process by which movement was managed "mobilization," a term that describes a subset of the broader range of practices termed "redistribution." However, the Linear B documents only cover those activities of interest to the palace, and scholars recognize that much economic activity went on below or alongside the palatial economy (below, pp. 307–8).

Palatial transactions were documented in the clay records kept by administrators at the palatial centers (Ch. 1, pp. 13–14). The arrangements attested by these documents were remarkably similar from state to state. This is the more interesting as they span more than two centuries. The earliest records from Knossos are from the Room of the Chariot Tablets, which probably date to early LM IIIA1;[4] the main archive there likely belongs early in LM IIIA2, though a minority still argue for a date in LM IIIB (below, pp. 310–11; Ch. 9, pp. 219–20). In any case, an inscribed stirrup jar found in the so-called Unexplored Mansion at Knossos, and a handful of tablets from Chania, clearly belong to LM IIIB, showing that the script was still in use on Crete then.[5] The earliest tablets yet found on the mainland come from an LH IIIA2 context at Mycenae.[6] Other groups of tablets from Mycenae and Thebes date to the middle and end of LH IIIB; those from Tiryns and Pylos fall at the end of that period.[7] Local historical conditions led to some differences in the details of how each state operated – administration appears to have been more centralized at Pylos than at Knossos, for example (below, pp. 303–6) – but certain general points can be made about state interests and the officials who kept track of them.

Officials in the Mycenaean State

For most aspects of Mycenaean culture we rely wholly or partly on archaeological evidence, but one important type of information is available only from the tablets: the names and titles of personnel. Useful as the documents are in this respect, though, many problems remain. It is not always clear what a title meant, for example, or just what its holder did. The supreme leader of the Mycenaean state was clearly a king; his title, wanax, appears in the Homeric epics meaning "lord," "master," as, for example, Agamemnon "lord of men." But the range of his powers and duties is not wholly clear.[8] He certainly presided over the administrative hierarchy that ran the state economy, and some goods

and craftsmen were designated "royal." But was he also a lawgiver, like ancient Sumerian and Babylonian kings? Was he a military commander who led troops into battle, like the Egyptian pharaoh or the king of the Hittites? The tablets, with their limited economic focus, reveal nothing of such matters. Indeed, the noun "wanax" itself appears only twenty times in the preserved corpus of over 5,000 Linear B tablets, and only two texts from Pylos show the king in an active role: on tablet Ta 711 he appoints a *da-mo-ko-ro*, a provincial overseer (below, pp. 300–301), and on tablet Un 2 he participates in a ceremony – probably his own initiation – at the sanctuary site of *pa-ki-ja-ne*, Sphagiānes. The latter tablet lists barley, figs, animals, and other supplies for a banquet, and a number of similar texts have been recognized at Pylos, Knossos, and Thebes.[9] The association of the king with ritual feasting is further cemented by the trappings of the main megaron at Pylos (Room 6): an offering table near the throne, a libation channel beside it, and a mural behind it depicting pairs of men seated at tables and a lyre player entertaining them (Ch. 13, p. 353).[10] In addition to his political and economic power, then, the wanax was also a religious leader, in the tradition of his Early Mycenaean predecessors, who gained authority through their control of organized religion and through emphasis on their own powerful ancestors (Chs. 10, pp. 244–6, 248–9; 13, pp. 339–40). Like the gods themselves he sometimes received offerings, for example of perfumed oil; but this association does not require us to believe that he had divine status himself, or that the term wanax referred to deities as well as human rulers in the Mycenaean period, as it did in the Homeric epics.

A number of other titled officials also figure in the tablets. Ranked second, to judge from his land holdings, was the **lāwāgetās** (or lāwāgertās), a title probably meaning "leader (or gatherer) of the people."[11] Various groups and individuals appear under his charge at Pylos and Knossos; these include rowers at Pylos (An 724), so one of his roles (but probably not the only one) was that of a military leader.[12] The lāwāgetās and the wanax may each have presided over a ceremonial hall in the palaces; a subsidiary megaron with a central hearth has been found at both Pylos (Room 65) and Tiryns.[13] Below these principal leaders in the hierarchy were "Followers" (*hequetai*), who accompanied military contingents (Pylos An 657, etc., the so-called "*o-ka*" tablets) and evidently performed other functions as well.[14] Some appear on lists in the company of religious officials (Knossos Am 821, Pylos Es series) and one of the Pylos Followers (An 656) is named Diwieus ("Zeus-priest"); he is probably the same man as the Diwieus who collects bulls or oxen for sacrifice from the same types of military contingents (Cn 3)

and receives offerings along with another high-ranking individual and the god Poseidon (Es series).

Scholars have applied the title "Collector" to another class of named members of the elite. There were four of these individuals at Pylos and at least twenty-five at Knossos; they are also identified at Mycenae, Thebes, and perhaps Tiryns.[15] In Pylos records they are associated with the term *agorā* (*a-ko-ra*, probably meaning "collection") in the context of flock management and, in one instance, with the verb *ageirei* (*a-ke-re*, "[he] collects"). In the Knossos Linear B records dealing with the production of woolen textiles (below, pp. 305–6, 313), around 30% of the flock census texts list an individual who appears to have enjoyed the benefit from these flocks. There are fifteen of these individuals; management of the remaining flocks seems to have been a direct responsibility of the palace. "Collectors" have also been identified at other stages of textile production, notably as workshop owners, and in other areas of the palatial economy, such as perfumed oil production at Knossos, where the individual named Kyprios (*ku-pi-ri-jo*) may have been a prominent "Collector" of perfumed oil. It is thus possible that they were involved in acquiring and distributing exchange commodities.[16]

A fundamental key to their role is the fact that the "Collectors'" involvement was recorded on central documents. This indicates that they were not independent economic or political entities, but members of the ruling establishment at each Mycenaean state where they are attested. Some of the names occur in records from more than one Mycenaean center, so perhaps they belonged to an elite with common naming traditions, or, just possibly, to an inter-state ruling class (though when the dates of the tablets differ it is unlikely the same individuals are meant). Another view, perhaps most plausible for the Knossos state, is that they were local elite members, distributed throughout the state, but more common at some distance from the center at Knossos (below, pp. 313–14).[17]

There are other titled officials, too, whose roles we understand even less well. The term **g^{w}asileus** (*qa-si-re-u*), for example, is clearly the predecessor of the word known from Classical Greek as a word for "king" (**basileus**). In Mycenaean times the word had no such resonance, and, in contrast to the single wanax, several g^{w}asileis are mentioned; they serve as overseers of groups of workers, for example, bronzesmiths at Pylos (the Jn series of tablets), and of unspecified groups defined simply as *g^{w}asileia*. They were more than just "foremen," however. On a Knossos tablet (As 1516), g^{w}asileis are listed alongside the

lāwāgetās, in charge of groups not much smaller than his, so their status may have been fairly high, even if their power was locally based.[18] Other titles are cryptic, though picturesque. What are we to make of figures described as "fig overseers" or "key bearers," officials attested in the districts that made up the Pylos state? Both were called on to contribute "temple bronze" to make weapons at Pylos (Jn 829). To judge from their company in landholding records, the latter were evidently religious personnel (alongside those straightforwardly designated "priests" and "priestesses"), but their specific functions remain mysterious.

This is a sampling of the kinds of central administrative personnel whose existence would be invisible were it not for the Linear B documents. Yet even they omit to mention some figures well attested in Mesopotamian administrations, or those of later Greece. The title for the very individuals who wrote the documents – the "scribes" – is absent. A combination of textual content with archaeological context, however, informs our understanding of the administrative activities that went on in a palatial center.

Administrative and Economic Activity in the Palaces

As noted above (pp. 291–2), a variety of goods passed into and out of a Mycenaean palace and its administrative system. At Pylos much of the ground floor was devoted to storage, at least in the later part of LH IIIB (Fig. 12.1). Rooms 7 and 8 compose the Archives Complex, where the great majority of the tablets were stored. Rooms 19–22 and 60–62 are pantries full of crockery; large jars mark Rooms 23 and 24 as storerooms, and over 50 tablets found in Room 23 identify its contents as perfumed oil. Room 32 was better finished, with plastered floor and walls, but similar tablets and smaller painted oil jars were among its contents, showing that it had been converted to storage by the end of the palatial period. Another oil storeroom, Room 27, was an addition to the original plan,[19] as was the freestanding Wine Magazine (Rooms 104 and 105), identified by the logogram WINE on clay **sealings** (lumps of clay impressed by a seal; Fig. 1.3) discarded there. Such conversions and additions of storage space may have been a response to economic constraints and/or military threats in the course of the later thirteenth century BCE. Similar developments took place at Mycenae and Tiryns, along with the extension of massive fortifications at those sites (Figs. 11.3, 11.4; Ch. 15, pp. 388–9).

Written records from Pylos complement the archaeological impression of an administration preoccupied with the storage and circulation of commodities and their transformation into finished products. As just noted, some tablets were actually kept with the goods to which they referred. The latest and largest addition to the Pylos palace was the Northeast Building (Rooms 93–100), in which almost eighty tablets and sealings were recovered, referring, among other topics, to leather work and chariot equipment.[20] These finds caused the excavator to identify the building as a workshop, but it may rather have been a subsidiary administrative unit and clearing house.[21] The Sa tablets refer to chariot wheels, some in need of repair; one was found here, the rest in the Archives Complex. We can readily imagine that records were made as chariot materials passed through the Northeast Building, to be transferred eventually to the archive in the Main Building. Such activity would account for the unusually wide doorways in the Northeast Building. Similar clearing houses have been identified at Thebes, where the Of series records wool dispensed from a storehouse to workers elsewhere, and a group of sealings at another location marks the arrival of animals and other supplies for communal banquets.[22] At Mycenae, too, a group of four houses outside the citadel walls (the West House group or the Ivory Houses, Ch. 11, p. 266) probably functioned as a clearing house for goods moving in and out of the center.[23]

Workshops, particularly for exotic materials and items of exclusively palatial manufacture, did exist within the palaces, as archaeological evidence makes clear. At Thebes, for example, finds of worked, partially worked, and raw ivory, plus fragments of lapis lazuli and glass, demonstrate the working of these materials within the so-called "Kadmeion," or "palace of Kadmos."[24] At Tiryns, reexamination of glass debris provides evidence for the working of molten blue glass there; the finished products were produced in the sort of stone molds attested particularly at Knossos and Mycenae.[25] Alongside the archaeological evidence, there are references in Linear B documents to specialist craftsmen such as the "blue glass worker" (*kuwanoworgos*) and the "gold worker" (*khrusoworgos*), whereas Pylos Va 482 documents the assignment of ivory, probably in raw tusk form, for working.[26] The products of these workshops are illustrated in objects such as the ivory furniture legs from Thebes, or the ivory cylindrical **pyxis** (small box) found in a chamber tomb in the Agora of Athens, and are vividly described in the Pylos Ta series of tablets, an inventory of elaborate feasting equipment, including inlaid tables, chairs, and footstools, in storage in the palace.[27]

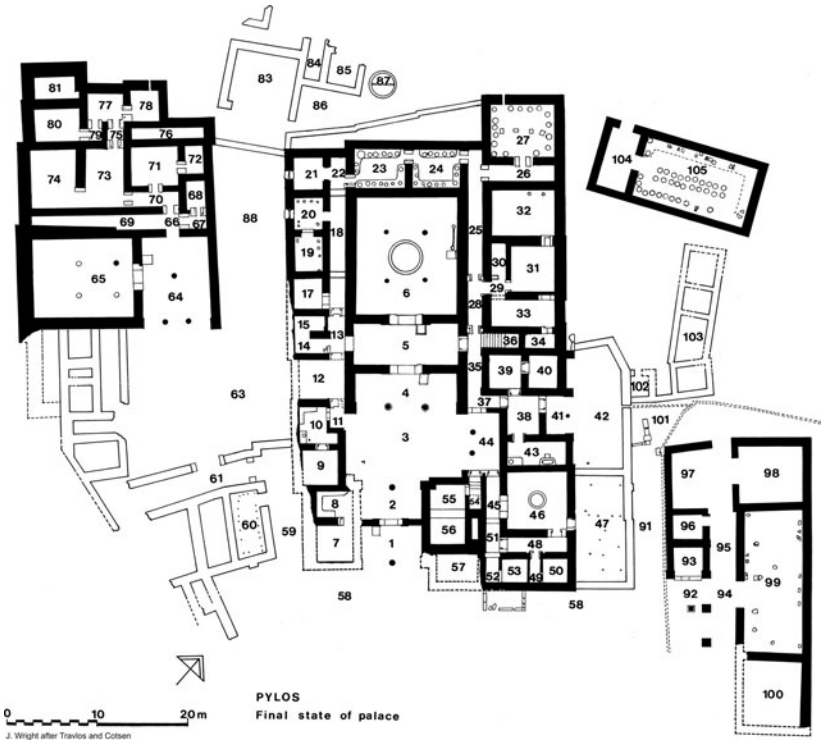

figure 12.1. Plan of Pylos palace. After J. C. Wright, "Changes in Form and Function of the Palace at Pylos." In *Pylos Comes Alive: Industry + Administration in a Mycenaean Palace,* edited by C. W. Shelmerdine and T. G. Palaima. New York: Archaeological Institute of America 1984, fig. 2. Plan by James C. Wright. Courtesy of James Wright.

Pylos is the only site at which a central Archives Complex (Rooms 7 and 8) has been identified. Within this complex, it seems that information was received and recorded in Room 7; the tablets were stored for future reference (or, possibly, until the information was transferred to another less bulky medium; Ch. 1, pp. 12–13) in the adjacent, communicating Room 8. Close to 800 of the 1,100 Linear B texts found at Pylos were recovered from these two rooms. This statistic, together with the broad range of topics covered, the fact that almost all summary documents from Pylos occur here, and their conservation for consultation suggest that this pair of rooms functioned as a true "archive."[28]

Some of these archived tablets monitor activities around the state, whereas others refer to goods and people at the center itself. This is clearly the case when a tablet begins with the place-name "Pylos" (thus

confirming the Mycenaean name of the site) or when no place name is given. The Pylos Aa texts, for example, list female textile workers at various locations; other place names are always specified, whereas the name Pylos may be included (Aa 61) or omitted (Aa 62). Similarly at Knossos, a series of documents listing chariots distinguishes between those at Knossos, with no place-name, and those at other subordinate centers, where the place-name is given (Phaistos, Kydonia, *se-to-i-ja*).

Most of the commodities mentioned on the tablets belong to the elite sphere of society: perfumed oil, bronze, carved and inlaid furniture, decorated vessels, and the like. Specific examples of some goods (cloth; perfumed oil) are earmarked *xenwia*, "for *xenwoi*, foreigners," so presumably "for export," and others (cloth; chariot wheels) *hequesia*, "for the Followers (*hequetai*)" (above, pp. 293–4). Other documents list foodstuffs and other supplies for ceremonial banquets, which are increasingly recognized as an important ritual element of Mycenaean culture (above, p. 293), and which took place at the palace itself and, seemingly, at various key places within the state.[29] The evidence for such ceremonies at Pylos is discussed in Ch. 13 (pp. 353–4); here we note that the location of one deposit of bones, on the floor of Archives Complex Room 7, suggests a role for palatial administrators in recording the proper fulfillment of such rituals.

Administrative Officials and Activities outside the Palaces

Unfortunately little is known about the extensive towns around the palatial centers, although the majority of the urban population must have lived in them. Mycenae was the largest urban center in mainland Greece in the fourteenth and thirteenth centuries BCE. Its continuously inhabited core area extended over 32 **hectares** (a hectare is 10,000 sq. m or about 2.5 acres) and its population perhaps reached 6,400.[30] Life in the Late Bronze Age Argolid must have had a distinctly urban feel, given the particularly dense concentration of prominent sites there, including not only the fortified sites of Mycenae, Tiryns, and Midea, but also Argos, Lerna, Nauplion, and Asine. The urban topography of Boeotian Thebes is difficult to reconstruct because of the substantial modern town that overlies it, but it might have been almost as extensive as Mycenae, perhaps 28 hectares.[31] In Messenia, the palatial structures at Pylos occupied about 2 hectares, and surface survey suggests that the surrounding town extended over a further 12–13 hectares at its peak in

LH IIIB.[32] 3,000 is a reasonable population estimate for the total area. Thus the various towns differed in size to a degree similar to that of the palatial complexes themselves (Fig. 11.1).

The territories subordinate to the various Mycenaean state centers also varied considerably in size. The Argolid plain and the area surrounding it are less than 1,000 sq. km, and it is not clear how power was divided between the massive centers of Tiryns at its south end and Mycenae at its north; nor do we know the status of the citadel of Midea on the eastern side or Argos on the western. It may be that Mycenae's interests extended further north through the Dervenaki pass into the Corinthia, the next province to the north, as indeed the Homeric "Catalogue of Ships" suggests when it attributes Tiryns and the Argolid to Diomedes and Mycenae and the Corinthia to Agamemnon.[33] On Crete, Knossos seems to have administered much of western and central Crete during LM IIIA1-2; identifiable place-names attested range from *ku-do-ni-ja* (Chania) in the west to *pa-i-to* (equivalent to Phaistos, but more likely referring to Ayia Triada at this period) in the south-central region (for another possibility see below, p. 314).[34] Knossian authority may have extended east over the Malia plain, but waned beyond the Lasithi massif.[35] The total area covered might have been 50–75% of the island of Crete, perhaps 4,000–6,000 sq. km. The area dominated by Boeotian Thebes is far less clear, but may have been more extensive still. Archaeological evidence alone would suggest it shared Boeotia (the modern prefecture is nearly 3,000 sq. km in area) with the major site of Orchomenos to the north, on the northern side of the Kopaic Basin, perhaps rather like Mycenae and Tiryns in the Argolid. However, we do not know if Thebes or Orchomenos was responsible for overseeing the basin after it was drained and fortified in the LH III period, and the specialized fortress of Gla built.[36] We have no Linear B documents from Orchomenos, but the appearance in Thebes' Linear B tablets of the place-names Amarynthos and Karystos, attested in the classical period on the island of Euboea (area over 4,000 sq. km), suggests that Theban interests may also have extended south and east.

The most extensive information about administrative reach and hierarchy comes, again, from Pylos, which extended its control over approximately 2,300 sq. km., much of the modern province of Messenia (2,991 sq. km; Fig. 12.2). Archaeological evidence based on the number and size of surviving settlements suggests a population of about 50,000 for the Pylian state. References in the Linear B documents to "this side of Aigolaion" and "beyond Aigolaion" (Ng 319, Ng 332) show that the state was divided into two administrative areas, conventionally

referred to by scholars as the Hither and Further Provinces. The dividing line, still obvious today, was evidently the mountain range referred to by the Roman-period writer Strabo as Aigaleon, which bisects the Messenian peninsula from northwest to southeast (Fig. 12.2; Pl. 12.1). The chief settlements of nine districts in the Hither Province and the seven or eight in the Further Province are listed in fixed order, presumed to be geographical, on several tablets. It is also possible that the Further Province had its own capital at a place called Leuktron. Striking in the Pylos region is the absence of place-names attested in the area in later Greek history, like those attested in the Knossos and Thebes texts. This pattern is consistent with the greater abandonment of settlements in the region at the end of the Bronze Age (Ch. 15, p. 394).

Again, the Linear B tablets allow us to add nuance to provincial administration. In charge of each province was a *da-mo-ko-ro*; again the strict meaning is uncertain, but the first element of the word is clearly Greek. In the first millennium, **dāmos** meant "the community," "the body politic," and in our view this was likely the Mycenaean word for the administrative districts themselves (see also Ch. 13, p. 334). Good supporting evidence comes from Pylos Cn 608, listing the nine chief settlements of the Hither Province, where the people fattening pigs for festivals are termed *opidāmioi*, "those in the dāmos." As an administrative entity the dāmos had its share of power and responsibilities. Explicitly at Pylos itself the word refers to the administrative group overseeing district land allocations, and some think it had only this restricted meaning (Ch. 13, p. 353). A dispute recorded on Pylos Ep 704 illustrates the authority of the dāmos. This series of texts refers to landholdings in the district of *pa-ki-ja-ne*, Sphagiānes (also the location of a sanctuary, above, p. 293; Ch. 13, p. 349), their sizes expressed in amounts of seed grain required to sow them, which are said to carry an obligation to "work" (presumably, to cultivate the land). Line 3 of Ep 704 reads: "Eritha the priestess holds an *o-na-to* plot (a standard administrative allotment) of communal land from the dāmos, so much seed: GRAIN 38.4 liters." The dispute comes in lines 5 and 6: "Eritha the priestess holds and claims to hold an *e-to-ni-jo* plot for the god, but the dāmos says she holds an *o-na-to* plot of communal lands, so much seed: GRAIN 374.4 liters." It seems that Eritha acknowledged only a small part of her holdings as subject to regular administrative obligations; she argued that the rest was exempt on grounds of its religious status. This dispute pits religious authority against the secular power vested in the dāmos – though the fact that this and similar tablets are part of the palace archive

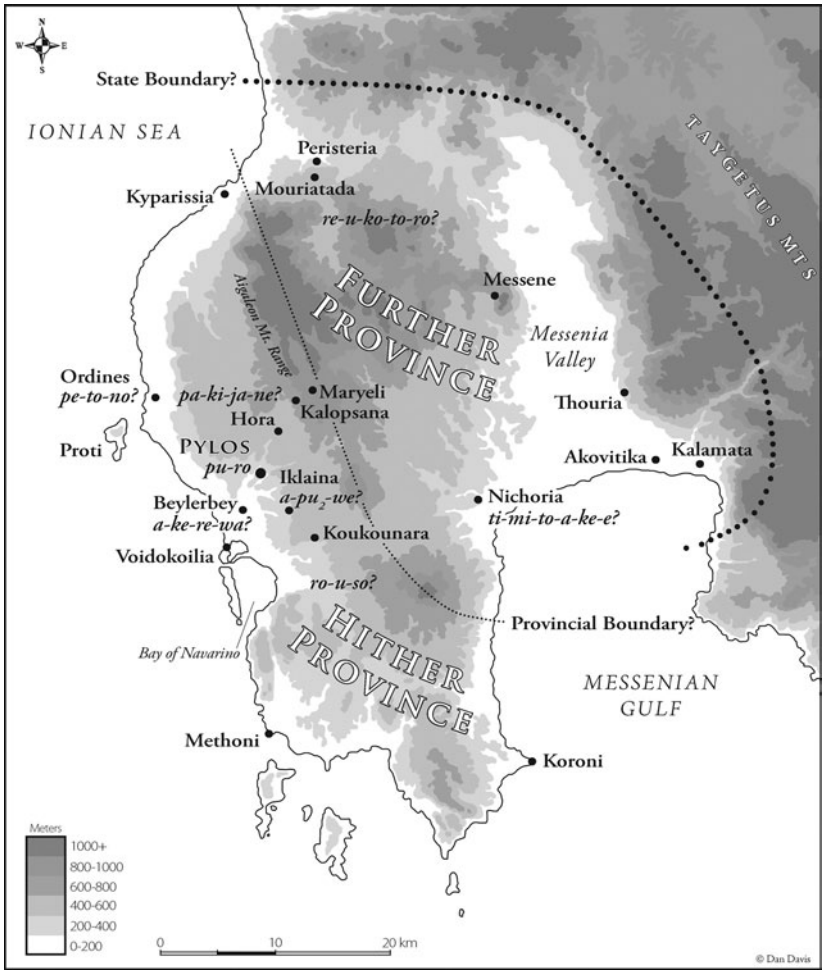

figure 12.2. The Mycenaean state of Pylos. Plan by Dan Davis.

reminds us that land tenure was ultimately under the control of the king's central authority.

Presiding over each district was a *korētēr*, with a deputy, the *pro-korētēr*; the etymology of the title is obscure, but it clearly signifies a district mayor or governor, probably based at the district center, who must have been responsible for ensuring that communities met their obligations to the center (such as providing bronze, Pylos tablet Jn 829), perhaps actually assembling the goods contributed annually as taxes. The direct acquisition of commodities through taxation differed from the

mobilization of resources (wool, grain, oil, flax, etc.) for use in palatial production.[37] These commodities were acquired from different parts of the palatial territory, near or far, depending on ease of transportation for bulky commodities such as grain, or ecological factors in the case of flax. Taxation documents, on the other hand, record statewide mobilization of products. The Pylos Ma texts (Pl. 12.2) offer the clearest example, although there is a similar set at Knossos, the Mc series. The Ma documents record, for each of the seventeen districts within Pylos's territory, assessments of six commodities in a fixed ratio to each other: 7 : 7 : 2 : 3 : 1.5 : 150. For the purposes of this assessment, the districts in each of the provinces seem to have been organized into four groups with roughly equal tax burdens. Also, it seems that the assessment on the Further Province was higher than that on the Hither, reflecting either its larger area or, possibly, punitive measures on the more recently acquired region.[38] For each district we have just one of three types of texts: assessments, actual contributions (indicating any shortfall), and assessments with an indication of missing quantities from the previous year.[39] Unfortunately we can identify only two of the commodities with real confidence: a type of plain cloth garment, produced outside the palatial system and contributed as a finished item; and animal hides.[40] All districts were asked to contribute all six commodities, suggesting that neither ecology nor transport restricted their availability. Occasional notes such as "the bronzesmiths do not give" show that tax breaks were available for districts whose members were contributing to the palatial economy in specific ways.

The goods assessed were widely available, so compliance by the districts was probably more important to the center than acquisition of the commodities themselves: the taxation process was as much symbolic of palatial authority as it was practical. Equally, the fact that the center was claiming products of local, possibly domestic, economies indicates that it felt it could legitimately reach deep into individual communities, even if the acquisition of such basic products was mediated through district officials and assessed at district level. Two texts (Pylos Mn 162, Mn 456) that break down contributions of tax garments for specific communities within two of the state's districts support this notion. It is likely that the administrative "department" in the Southwest Area of the palace at Pylos handled the details of the acquisition and distribution of this commodity by the center.[41]

The power of the governors may have been local, but they represented the central administration in their districts. Like people of even higher status they could hold plots of communal land (PY An 830),

and no doubt benefited from access to trade goods and other perks of their service and status. At the settlement of Nichoria, accepted as the Further Province district center *ti-mi-to a-ke-e*, a tholos tomb yielded gold jewelry, imported blue glass, bronze vessels, and heirloom sealstones of Minoan manufacture (Pl. 12.3).[42] This tomb type marked the locations of competing power centers in the Early Mycenaean period (Chs. 10, pp. 243, 245–7; 13, pp. 330–32, 334–5), in what would become the Hither Province. We believe these centers were demoted when Pylos eclipsed them and created its own state, expanding its influence from west to east. At this point the local chiefs would have become provincial governors for the Pylos state. The Nichoria tholos is unusually late in the series, built only in LH IIIA2, after the construction of this type of tomb had declined (Ch. 13, p. 335); its construction likely marked the time when the Pylian state expanded across Aigaleon and incorporated the Further Province (Fig. 12.2). Another sign of Nichoria's lowered status is that the rudimentary megaron in use there during LH IIIA1 was abandoned thereafter; the governor and other town leaders gained access to the prestige goods found in the tholos, but lost their own seat of power in LH IIIA2.[43] This is the only Mycenaean state about which we know enough to trace its development over time.

Industrial Production

In the Mycenaean world, the term "industry" implies "organized manufacture by hand." Production was not mechanized, although with a large workforce and the availability of technology, such as molds, the palaces were capable of a degree of "mass production." Industries fall into two basic categories, depending partly on their location relative to the center and partly on the process of manufacture. In general, palatial industries concentrated on producing sophisticated objects, distinguished by material, by the degree of labor input, or by their composite nature. Some industries – notably those dealing with textiles, bronze, and ceramics – already had deep histories in the Aegean prior to the Mycenaean period. The palaces did not interfere with the ceramics industry, but "captured" others. For industries such as bronze and textiles, where expertise already existed throughout palatial territories, the palaces controlled production by supporting workers and by monitoring the quantities of raw material that moved from stage to stage until finished products finally ended up in the palaces. Other industries involving more exotic materials, or those difficult to monitor (such as

the ingredients of perfumed oil: essentially olive oil and various plants), were more tightly controlled within the palatial complexes themselves, managed by trusted individuals of high status. It is likely that the palaces achieved a monopoly in the production of objects using materials new to the region, such as glass, manufactured in Mesopotamia and, very likely, Egypt, which became available only at the beginning of the Late Bronze Age.

References to craftsmen also emphasize the state administration's focus on prestige goods and industries. Like the objects they made, many craftsmen were highly specialized – blue glass workers, for example – and some moved in elite circles, such as Alxoitas at Pylos, who was a "Collector," possibly also a "Follower," and also involved in perfumed oil manufacture and ivory working. Some craft workers were called "royal," and others dealt with high-echelon goods. Some received land in return for their service; others, of lower status, were supported with food rations.[44] The palace's command economy allowed resources to be directed to secure the services of such specialists, whereas other, less specialized craft workers probably divided their time between craft production and subsistence farming.

The Linear B tablets help us to understand intricacies of production not readily accessible from the material remains. Partly due to variable preservation of documents, partly due to differing practices from palace to palace, different phases of industrial operations are attested at different centers. At Knossos a number of tablets record the collection of aromatic herbs, some destined for the perfume industry; at Pylos the process of manufacture is hinted at by tablets allocating ingredients to perfumers.[45] The absence of other place-names suggests that this industry operated at the center itself. Both sites attest the distribution of the final product: to deities, in many cases, but also to attendants and to the king.[46] Perfumed oil was kept in a distinctive vessel, known in English as a stirrup jar because the handle is said to resemble a stirrup (Pls. 12.4, 15.4); they range in size from containers for individual amounts of a liter or less to transport jars that could hold 12–14 liters. These jars are among the most widely attested trade items left by the Mycenaeans (Ch. 14, pp. 364–5), and Knossos tablet K 700 contains several entries totaling at least 1,800 stirrup jars (Ch. 9, p. 220; Fig. 9.3), so it is clear that treated oil was of great economic importance.

For certain assignments the palace supplied craftsmen with raw materials collected as contributions from around the state, or in trade; the Pylos Jn series, for example, lists smiths (*ka-ke-we*, *khalkēwes*) with and without allotments of bronze.

Unfortunately the Linear B Greek term for the metal, *khalkos*, could refer to either copper or bronze, but probably these craftsmen, based at various locations around the state's territory, were working bronze, possibly recycling scrap, rather than manufacturing the alloy from its raw constituents, copper and tin.[47] Most of the attested allotments were small, on Jn 750 only 1.5 kg per smith. We can imagine these individuals as local craft specialists when they were not working on palatial assignments.

Texts from Knossos offer an extraordinarily clear understanding of the production, at least partly for export, of elaborate woolen textiles under palatial control. By chance, the various stages of this "industry" are well documented and have been elucidated by John Killen in a series of important articles.[48] Sheep were kept at a number of places around Crete, some under direct control of the center, others in the charge of the named individuals called "Collectors" (above, p. 294; below, pp. 313–14). A series of 600 censuses of individual flocks, all by the same scribe, list quantities of male and female sheep at thirty places in east-central, central, and west-central Crete. Wethers (castrated males) predominate, because they yield the most wool; some sheep are differentiated as "old," "yearlings," or simply "missing/owed." Flock totals are typically round numbers (often 100, 150, or 200); when complete, these records (the Da–Dg series) must have monitored about 100,000 sheep. The center made sure flocks stayed at full strength and set targets of wool production for each of them, represented in records of shearing (Dk) and lambing (Dl).[49] The shortfalls among the Da–Dg records are greater than we would expect from natural wastage, implying the removal of animals, probably for local consumption.[50] It seems, therefore, that, rather than being directly owned by the palace and managed by local shepherds, in fact the animals were locally owned and managed, and the palace merely claimed the wool on round numbers of animals. A further implication is that the palatial authorities at Knossos had taken over a preexisting system of flock management, in order to acquire raw material (wool) for transformation into value-added finished products for redistribution and exchange.

The wool was collected and allocated to textile workers assigned to weave specific kinds of cloth.[51] One scribe (Hand 103), for example, noted the production targets for several types and the amount of wool needed to meet them, as well as the rations required to support the female work groups. Some of these groups, like some of the flocks, were under the control or ownership of a "Collector," whereas others were spread throughout the area of Knossos' control, mostly central and

west-central Crete, with a few in the west, around modern Chania. Hand 103 also followed the production of *te-pa* cloth (probably a heavy coverlet), recording the allotments of wool to workers and delivery of the finished product. A different scribe (Hand 116) took over the monitoring of another kind of cloth, which received extra decorative treatment before coming into the palace.[52] The records describe its appearance ("red," "with white fringes," etc.) and occasionally its destination: "for the Followers," or *xenwia*, "for foreigners" (above, p. 298).[53]

The Knossos textile industry in the mid-fourteenth century BCE was fairly decentralized; though overseen by the center, work took place at a number of different locations, and it has been estimated that the industry employed over 1,000 fully dependent women as textile manufacturers.[54] Our evidence from Pylos, over a century later, reveals a more centralized operation. We lack the production targets, allocations of materials, and most of the storage records available for Knossos. What Pylos fills in, though, is how the work force was maintained. The Aa, Ab, and Ad records document numerous groups of women, totaling about 750, engaged in the menial task of cloth production; some of the ethnic adjectives used to identify them imply an origin in the eastern Aegean or the western Anatolian coast, so they or their ancestors may have been immigrants or captives from these regions.[55] Some groups were stationed at a handful of subsidiary towns, but around 50% were located at Pylos itself. These women and their children received monthly rations; Fg 253 lists an annual (?) total of ca. 18,500 liters of wheat, and the same amount of figs. Although not necessarily slaves, these workers appear to have been fully dependent on the palace. As their children grew up, daughters stayed with the mothers, whereas sons moved on to join groups of male workers.[56]

Beyond the Evidence

It bears repeating that the Linear B texts take the perspective of a central authority and document primarily those activities in which the center had a major stake (above, p. 292). That being so, some gaps in the written records are surprising. Military personnel records are rare; troop strengths, rations, and movements are largely absent, though several Pylos texts refer to rowers, and one set monitors groups of men deployed as coast-watchers. It is not clear, though, whether these were military groups, or whether their activity was normal or exceptional. Another surprising omission is explicit mention of trade or exchange

(Ch. 14, p. 363).[57] Our only direct evidence of a commodity being moved from one center to another is *within* the Mycenaean world: a text found at Mycenae records a type of cloth destined for Thebes (*te-qa-de*, *Thēg^{w}ansde*), presumably Boeotian Thebes.[58] Two Pylos texts appear to record disbursements of commodities to individuals as payment for alum, but this may be a local transaction.[59] Finally, there are the references, on just four documents in the Knossos Ld(1) series, to *xenwia* cloth, which may mean cloth "for export" (above, pp. 298, 306). Because we now possess over 5,000 Linear B documents, spread over at least seven sites, the paucity of explicit references to exchange is unlikely to be attributable simply to accidents of preservation. It is possible that such activities were seasonal, or irregular, occurrences that happened at a time of year other than that covered by the short-lived documents preserved, and that the relevant records were of such temporary value that they were not archived.[60] If important, information about trade could have been transferred to another medium such as parchment for long-term storage. Alternatively, recording may have taken place at the ports of entry, perhaps on wooden tablets, such as that preserved on the Uluburun shipwreck (Ch. 14, p. 364). Because Mycenaean states were autonomous and the texts show almost no sign of interaction among them, it is less likely that exchange was funneled through a single center, such as Mycenae.

It is understandable that the mundane trappings of daily life are also missing from our documents: scholars have recognized for some time that the palaces did not control the entire economy, even allowing for the incomplete preservation of the documents from any one center.[61] For example, palaces apparently took no direct interest in the *process* of ceramic production, although they consumed ceramics in large quantities, as attested by documents (Knossos K 700, Fig. 9.3; K 778) and in excavations.[62] It is likely that ceramics were acquired from "attached" specialists who worked mostly or exclusively for the center, such as the "royal" potter whose land-holdings are documented on Pylos Eo 371. Some other finished products may have been "bought in" when needed, such as the nets implied in a payment (*o-no*) to "net worker(s)" in Pylos Un 1322. Other objects common in the archaeological record, such as chipped or ground stone, fish hooks and so on appear to be absent from the texts.

A similar picture exists for agricultural production: although botanical remains have rarely been systematically recovered and studied on prehistoric Aegean sites, those that have been represent a broader range of cereals than the two types attested in the documents, wheat and

barley. Seeds of legumes such as beans and lentils are quite commonly found, but are apparently absent from the texts.[63] Further, although there are references in the documents to large amounts of agricultural produce (notably the 10,000 + units of grain, around 775 tons, attested on Knossos F(2) 852, apparently from a "harvest" [*a-ma*]),[64] these are most unlikely to represent the total production of the regions in which palaces stood. Staple foodstuffs were, it seems, of interest to the palaces only in the context of production, as rations for workers. Other traditional Mediterranean agricultural products – wine and olive oil – were recorded more extensively because they belonged within the elite sphere and, in the latter case, were probably not for consumption as a foodstuff, but as an elite exchange item in the form of perfumed oil.

Recent advances in regional studies carried out in Greece have increased our appreciation of the numbers and distribution of lower-level, particularly rural sites, but until very recently these have been passed over by excavators, in favor of more exciting (and lucrative) palaces and tombs (Ch. 1, p. 8).[65] Until we have better data for lower-echelon sites, we will not be able to understand the lives of everyday inhabitants of Mycenaean Greece, or to set nonpalatial activities against the picture presented by the palatial documents. In the Pylos texts, only a few individuals are given names or titles. The majority appear in groups, sometimes simply recorded either by ethnic titles, such as the textile women on the Aa, Ab, and Ad tablets at Pylos, or against the logogram for MAN or WOMAN. They are just a portion of the state's possible population of 50,000, and though we know some of the work they did, we have no clear idea of where they spent their lives, under what conditions, and what else they did when not carrying out tasks for the palatial authorities. Women appear only as workers, or as religious personnel; they are absent from the ranks of the central administration. We know little about families, though the Pylos textile women were caring for their younger children, and the parents of dependent workers are occasionally mentioned. For a variety of reasons, then, the picture sketched here of Mycenaean states is a partial one, and pertains largely to the lives of elite members of society. A history of the Mycenaean "man in the street" is, as yet, some way off.

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12B: Late Minoan II to IIIB Crete

Laura Preston

Introduction

In chronological overviews of the Aegean Bronze Age, after discussions of the "climax" of the Minoan civilization in the Neopalatial period, the focus of interest often shifts to the incipient palace-states of the Greek mainland, and, with the exception of Knossos, Crete becomes something of a backwater, viewed as an increasingly marginalized region in a now Mycenocentric world. Yet in fact, although interactions with the mainland were indeed intensive, Crete's rich archaeological record has revealed an equally significant picture of internally focused, fast-paced political and cultural changes.

The ceramic phases LM II–IIIB cover the period from the fifteenth-century horizon of destructions that devastated most of the Minoan palaces (marking the end of what we term the Neopalatial period) down to the later thirteenth century, which witnessed a general disintegration of urban centers on the island. For reasons explained below, opinions differ among archaeologists regarding the appropriate "political" terminology to use – the labels "Final Palatial," "Third Palatial," and "Postpalatial" have all been applied to all or part of this period. This discussion will use the ceramic phases as chronological labels, as a more neutral alternative, but the issue of Crete's changing political organization is nevertheless important in any analysis of this period, involving as it did the demise of state societies on the island.

Archaeologists often use two principal subphases in discussing political changes within this period. The first is characterized by Knossos' dominance over a large area of Crete; the second followed the breakdown of this hegemony. Over the past four decades, there has been an ongoing controversy over the date of the transition point between these two phases – that is, the horizon when the Knossian

administration of the island ended. The two principal alternatives are the early fourteenth century (corresponding to early LM IIIA2) and the early thirteenth century (early LM IIIB). The controversy has largely focused on the destruction date of the palace archives – the deposits of clay tablets and sealings that were preserved in a fire destruction (Ch. 1, p. 13). At least two major destructions are attested in the palace in the fourteenth and thirteenth centuries, but it is assumed that the horizon in which the majority of the preserved archives were burnt marks the final collapse of Knossos' political control over much of the island. The arguments on both sides of the debate are varied and complex, not least because they are largely based upon stratigraphic and contextual interpretations of excavation records written by the early twentieth century excavators of the palace.[66] In recent years, observations derived from other types of evidence, at Knossos and elsewhere on the island, have increasingly been brought into the debate.[67] It seems that we are now moving toward greater consensus, with a preference for the earlier, LM IIIA2 dating (for a different view, see Ch. 9, pp. 219–20).[68]

Another issue that has frequently preoccupied archaeologists studying LM II–IIIB Crete has been how to characterize and explain the cultural changes that occurred on the island. The widespread introduction of mainland-derived artifact types and symbols, particularly at high status levels (embracing, among other things, burial practices, pottery styles, and fresco iconography), has prompted many archaeologists to label the island in this period "Mycenaean Crete." Indeed, it is widely believed that following the destructions that marked the end of the Neopalatial period, Knossos was actually controlled by a mainland-derived elite, who either had caused the destructions, or at least had exploited an internal political crisis to seize control (Ch. 7, p. 182). One innovation that is particularly seen as supporting this theory was the introduction of Greek as the administrative language at Knossos, recorded in the Linear B script (Fig. 9.3; Pls. 12.2, 13.3), replacing the non-Greek language(s) for which the earlier Linear A and Cretan Hieroglyphic scripts had been used (Chs. 1, pp. 11–14; 7, pp. 174–6; Pl. 7.5).

This identification of intrusive mainlanders, however, and the more general characterization of the island's material culture as "Mycenaean" in this period, are fraught with problems. The very application of the terms "Minoans" and "Mycenaeans" to the populations of Crete and the mainland, respectively, is potentially misleading. These terms were coined in the early twentieth century CE, when overly simplistic

correlations were made between spatial concentrations of certain artifact types and languages on the one hand, and the territories of culture groups on the other. Our understanding of the language and dialect maps of the Bronze Age Aegean is tenuous, and although certain types of material culture do characterize Crete and the mainland respectively in the Neopalatial period, this fact does not demonstrate that their populations saw themselves as two distinct ethnic groups or used any of these symbols (or, indeed, language) to express ethnic difference. Thus in the present context, although the introduction of mainland-derived cultural practices onto Crete in the fifteenth century may indicate the movement of a limited population group, at least some of these transferals may equally have more complex underlying causes, being borrowed and adapted for strategic social or political reasons. Moreover, many of the features concerned underwent modifications in the process of transmission. These adaptations should encourage us to consider other possible motivations underlying the introduction of these ideas, and, if movements of people were sometimes a factor, to ask why their practices might have been modified to accommodate this new environment. In this light, Crete may be seen not simply as a recipient of mainland ideas and population groups, but as a place where ideas were being adapted to suit internal agendas, and where the resulting innovations contributed, in turn, to the more general cultural developments occurring across the Late Bronze Age Aegean.

Late Minoan II to IIIA2 Early

It is not yet clear whether Knossos' political domination on Crete in LM II–IIIA2 early was an entirely new phenomenon, or the continuation of a system that had already existed in the Neopalatial period (Chs. 6, pp. 150–52; 7, pp. 173–9). However, certain elements of the regime were undoubtedly new, and the impact of the destruction horizons across the island at the end of LM IB should not be underestimated. Settlement disruption, and possibly even marked depopulation, affected many sites; and although recovery appears to have been swiftest at Knossos itself, there is evidence that this center's elite had to reconsolidate its authority, practically and ideologically.

The decipherment of Linear B has given us insights into the geographical extent, economic basis, and political infrastructure of the Knossian regime. It was concentrated mainly in the central, western, and mid-eastern regions of the island. The Knossian elite may have

targeted specific regions and centers within this territory for purposes of economic exploitation, rather than maintaining equal and uninterrupted political control over the whole area. It is also possible that this territory (or the targeted centers and regions) accumulated gradually, rather than being established at the start of this period and remaining static until Knossos' downfall.[69] Control seems never to have extended to the far east of the island, however, given the lack of toponyms in the Knossian archives that might be identified with known sites beyond the Lasithi area. The far east probably consisted instead of independent polities, one of which possibly centered on Palaikastro. An intriguing recent suggestion is that the LM IB destruction horizons at sites in the eastern region were actually somewhat later than those in other areas of the island, taking place when LM II ceramics were already being used at Knossos.[70] If so, the collapse at the end of the Neopalatial period may have been a drawn-out process of recurring upheavals over a number of years, rather than an instantaneous event.

Among other economic matters, the Knossian archives are heavily concerned with issues relating to flock management and cloth production; textile manufacture was one of the mainstays of the palace's economy (above, pp. 305–6). The regime was based on a site hierarchy with several administrative levels. Knossos occupied the top tier as the dominant center and seems to have directly administered the region immediately around it. Elsewhere, however, political and economic control was exercised through "second-order" centers. The Knossian archives record the presence of individuals known as "Collectors" (above, pp. 294, 305), who seem to have been more prevalent in the areas of second-order centers, beyond direct palatial control. Although they did not have a monopoly on control in these areas and their activities are centrally recorded, the "Collectors" seem to have managed the administration of some flocks and some local textile production on behalf of the palace, perhaps functioning as intermediaries located at these sites, or even owning the resources described. Some scholars have therefore referred to these individuals as "owners" or "overseers," although neither is widely accepted as an alternative to the term "Collector."

The names of six second-order centers are recorded in the archives: *ku-do-ni-ja*, *pa-i-to*, *se-to-i-ja*, *da-*22-to*, *ku-ta-to*, and *a-mi-ni-so*. The last site is unusual, as it probably refers to a specialized cult center adjacent to Knossos (at modern Amnisos), rather than an administrative base. The locations of the other sites have been identified with varying levels of confidence, based on associations between

toponyms in the archive lists, on links with modern settlement names, and on archaeological evidence from the known Late Bronze Age centers.[71]

Ku-do-ni-ja is agreed to refer to the settlement beneath modern Chania. This center is unusual in that it appears to have enjoyed a relatively high degree of local autonomy within the Knossian administration: the greater prominence of "Collectors" in the records for this area suggests that it was administered only indirectly by Knossos (above, p. 294). *Pa-i-to*, situated in the south central area of the island, probably refers to Phaistos (Ayia Triada may therefore be represented by the toponym *da-wo*, which is consistently associated with *pa-i-to* in the archival records; for another possibility, see above, p. 299). *Se-to-i-ja* is likely to have been east of Knossos (Malia is a plausible candidate), whereas *da-*22-to* (the phonetic value of the middle syllable has not yet been determined) was probably in the western area of the island, possibly somewhere in the region around modern Rethymnon. *Ku-ta-to* has not been identified with any certainty even with regard to region.

If the identifications that have been made are correct, there was a certain amount of continuity in site hierarchy from the Neopalatial period, with former palatial centers being incorporated into Knossos' administrative system as intermediaries, in a convenient appropriation of an established structural and administrative network. Indeed, it has been suggested that the "Collectors" were actually members of the preexisting local elites of these centers. It is notable that none of these sites (or indeed, any of the former palatial centers) appears from its archaeological evidence to have been highly prosperous in LM II–IIIA2 early: there was little large-scale rebuilding of monumental structures such as had characterized the settlements in the Neopalatial phase, and mortuary traces of the elites are elusive, at least until the latter part of the period (LM IIIA1 to IIIA2 early). The reasons for this lack of prosperity and ostentation may have been both ideological and economic: an active suppression of status display in subjugated centers by a Knossian elite still consolidating its authority, and a lack of resources on the part of local elites still recovering from the crisis that had culminated in the Neopalatial destruction horizon.

By contrast, Knossos itself prospered in this period. The political hierarchy of its elite is unclear, though oblique references are made to a wanax in the archives, and other official positions are mentioned that also occur in the later Pylian records (above, pp. 292–5). The palace now underwent substantial modifications, with rebuilding in several areas (Fig. 6.1). Much of the fresco evidence found in the

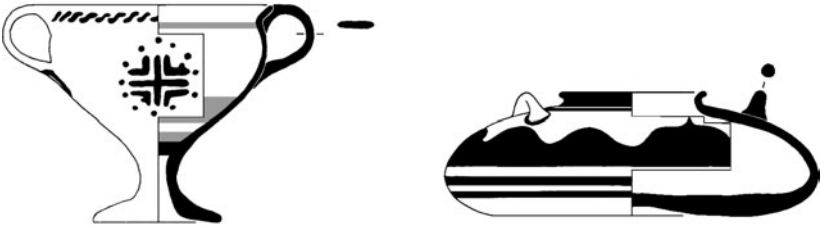

figure 12.3. Ephyraean goblet (left) and alabastron (right) from the Isopata cemetery at Knossos, LM II, at 1:3. After L. Preston, "The Isopata Cemetery at Knossos." *ABSA* 102 (forthcoming 2008) figs. 17 and 21. Courtesy of the British School at Athens.

modern excavations belongs to this period, whether as newly created images or Neopalatial frescoes that had remained in situ.[72] Traditional "Minoan" elements within the iconography, such as bull imagery, are juxtaposed with more innovative, probably mainland-derived symbolism and themes such as the figure-of-eight shields in the "Shield Fresco." The limited area of the settlement so far excavated around the palace has revealed a survival of some Neopalatial structures and new constructions of high status buildings.[73] Building activities were certainly not on the scale witnessed in the preceding, Neopalatial, phase at this site; nevertheless, new constructions did occur, often using traditional Cretan high status design elements and material such as the **polythyron** system (rooms with pier and door partitions; Pls. 6.6, 6.7) and gypsum masonry (Ch. 6, pp. 148–9).

The presence of a prosperous elite at Knossos is equally visible in burial practices. The LM II phase saw an interest in extravagant tomb burials that was innovative in many respects. In the Neopalatial period, Knossos and its harbor town at Poros already stood out from the rest of Crete for the popularity of wealthy burial (Ch. 7, p. 172), but the ostentation of the tombs constructed in LM II was far greater. "Warrior" symbolism is frequent in the assemblages, a distinctively mainland-inspired theme paralleled in the lists of chariots, weaponry, and armor in the palace archives. Tomb designs were also heavily influenced by mainland types (for example, tholoi and chamber tombs, Figs. 13.1, 13.2; Ch. 13, p. 335). The most ostentatious tombs at Knossos combined mainland ideas with traditional Minoan elite symbols in their architecture and assemblages in innovative ways, though this mixture gave way to a more standardized, warrior-focused mortuary iconography in LM IIIA1.[74]

The mainland influences at Knossos were particularly focused on elite material culture, including fine ware ceramics (Fig. 12.3), though

it should be noted that non-élites are generally less well represented in the archaeological evidence so far. At these higher social levels, however, frequent references were still being made to high status symbols developed on Crete in the previous Neopalatial period. The overall impression gained is of the development of a new ideological system by an elite seeking to consolidate (or reconsolidate) its authority, following dramatic political and social destabilization. Although mainlanders may well have been involved, the experimentation with ideas derived from both Cretan elite tradition and the contemporary mainland tells us less about the origins of this Knossian elite than about their desire and ability to innovate in response to a critical situation. Indeed, within the broader Aegean context, Knossos stands out very prominently as a center of cultural innovations, one that probably influenced in turn the polities that were developing on the mainland. A prime example of this influence is the Linear B script itself, an adaptation of an earlier Cretan script (Linear A); having been developed at Knossos in this formative period, it was later taken up as the administrative script of the mainland palaces (Chs. 1, p. 14; 7, p. 175).

Late Minoan IIIA2 to IIIB

In LM IIIA2 there was a resurgence in elite display at several centers that had functioned as second-order sites in LM II–IIIA2 and/or palace centers in the Neopalatial period (such as Malia, Ayia Triada, Phaistos, Archanes, and Chania), as well as the thriving harbor town of Kommos in the Mesara plain. Particularly notable is the construction of monumental buildings in the settlements and an increased interest in ostentatious tombs. The phase also saw increasing regionalism in ceramic styles on the island, and a decline in elite display at Knossos. Taken together with the Knossian archival evidence, as noted above, these changes plausibly reflect the collapse of the Knossian regime and a shift in power (though Knossos may have survived as a regional center).[75] The political relationships between the resurgent centers are unclear, partly due to a lack of archival evidence. Suggestions have ranged from a monopoly over the former Knossian regime by one or two dominant centers, to a more fragmentary picture, with a number of polities coexisting across the island. The burial practices taken up at Knossos in LM II were now disseminated widely across the island; the distribution of tholoi, a tomb type that often carried high

status connotations, is particularly noteworthy, as few of them are associated with the known centers.[76] The political landscape may therefore have been even more fragmented than previously suspected, with minor elites existing precariously on the margins of the larger polities. If so, although societies that we would consider "state-level" surely existed in much of the island, such complexity may not have been ubiquitous.

The political map of the island almost certainly fluctuated during the fourteenth and thirteenth centuries BCE. In LM IIIA2, a number of centers were thriving across the island, coinciding with the increasing prosperity of the mainland palatial sites. Construction activity within the centers is widely documented; the evidence from Ayia Triada in particular has been published in detail.[77] Several large-scale structures were erected here, during at least two building phases within LM IIIA2; the functions of the various buildings are not all clear, but their size, the presence of embellishments such as frescoes, and their location directly above the ruins of Neopalatial elite structures at the center of the settlement are strongly suggestive of high-status display and centralized authority.

The layouts of monumental buildings in this phase on Crete show a significant degree of variation, both between and indeed within the different major sites. Certain features have been identified as being reminiscent of mainland practices (in particular, "megaron"-like rooms);[78] other elements appear to refer back to earlier Cretan practices, though standard Neopalatial high-status features (Ch. 6, pp. 141, 148–9) such as **lustral basins** (small sunken rooms of unknown function) and polythyra are not replicated. The often innovative designs of these structures, frequently referred to as "hybrids," suggest experimentation with high-status display similar to that witnessed earlier at LM II Knossos, but this time prompted by the renewed horizon of political instability on the island attendant upon Knossos' collapse.

A willingness to innovate is equally apparent in the burial practices of elite groups at some centers in LM IIIA2, as for example at the high-status cemetery at Phournoi, associated with Archanes (Pl. 7.4). Here sacrificial remains of a horse and a bull were found with one burial.[79] The former animal is more commonly associated with mainland "Mycenaean" elite iconography than with traditional "Minoan" symbolism, of which the bull was, by contrast, a focal emblem (Chs. 7, pp. 180–81; 13, pp. 353–4). Equally, tomb types at Phournoi of mainland derivation, such as the tholos, whether borrowed directly or

via Knossos, contained burials in **larnakes** (clay coffins), an almost exclusively Cretan artifact in the Aegean in this period (Fig. 12.4; Ch. 13, p. 333).

In LM IIIB, the political map of Crete seems to have changed again. A number of the larger sites declined in prosperity, or at least in elite ostentation: wealthy burials were virtually discontinued and little large-scale architectural construction took place within settlements. Within this general climate, however, which contrasts with the continuing prosperity of the mainland polities (at least in the early part of LH IIIB), Chania stands out as a thriving center. Indeed, its importance and influence seem actually to have increased in LM IIIB, perhaps at the cost of the other centers on the island. Extravagant burial practices continued in and around Chania, and an extensive trade network is attested by the presence of distinctive Chaniot fine ware pottery at a number of sites elsewhere in Crete and the Aegean. Large coarse ware stirrup jars, used for the bulk transportation of goods, also traveled widely from the western region of Crete; among them are the so-called "inscribed stirrup jars" (Pl. 12.4), which have painted inscriptions in Linear B (Ch. 1, pp. 10–11, 12).[80] Linear B tablets have also been recovered from LM IIIB levels in the settlement excavations at Chania itself; this is the only Cretan center so far known to have had an administrative Linear B archive in LM IIIB.[81] Furthermore, a number of inscriptions on stirrup jars of a west Cretan provenance allude to a wanax, prompting the speculation that a "palatial" complex may yet come to light at Chania.

By the end of LM IIIB, however, all of the central sites discussed above had suffered destruction or abandonment. This process appears to have been gradual, affecting centers at different times. The causes remain unclear, but were surely linked with broader political and economic crises in the Aegean and the Near East, as well as internal upheavals (Ch. 15, pp. 387–92). In the twelfth century, settlements were generally small, and the levels of social complexity appear to have been much lower than in the LM II–IIIB polities. We see a destabilization of much of the population; numerous sites were abandoned and others established, often in naturally defensible positions (Ch. 15, pp. 393–5). The fragmentation of the political landscape that began with the decline of Knossos in LM IIIA2 now accelerated, and the structures of small-scale societies that had probably already begun to develop beyond the limits of the polities in LM IIIA2–B came increasingly into play.

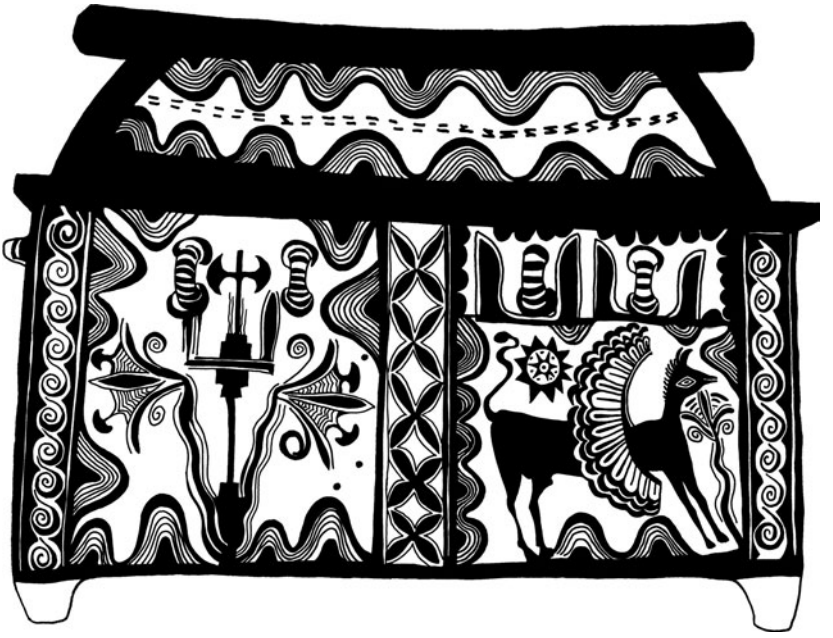

figure 12.4. Chest larnax from Palaikastro, LM III. After R. C. Bosanquet 1902, "Excavations at Palaikastro I." *ABSA* 8 (1901–1902) pl. 18. Courtesy of the British School at Athens.

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Notes

1 The term "Mycenaean" reflects the predominance of palatial states on the mainland of Greece, but presents certain difficulties when applied to the LM II–IIIA palace and state of Knossos. First, it may not be an accurate ethnic label for those

ruling Knossos at the time (below, pp. 317–18). Second, that palace looks quite different from the mainland model, because it was originally a Minoan center and conformed to Minoan architectural principles (Ch. 6, p. 141). Those who took over the administration of much of Crete in LM IIIA certainly made additions and changes, but they worked with rather than destroying local styles, local Minoan elites, even Minoan deities (Ch. 13, p. 352).

2 C. W. Blegen and M. Rawson, *The Palace of Nestor at Pylos in Western Messenia* I: *The Buildings and Their Contents*. Princeton: Princeton University Press 1966; W. A. McDonald and G. R. Rapp, Jr., eds., *The Minnesota Messenia Expedition: Reconstructing a Bronze Age Regional Environment*. Minneapolis: University of Minnesota Press 1972; J. L. Davis, ed., *Sandy Pylos: An Archaeological History from Nestor to Navarino*. Revised edition. Princeton: American School of Classical Studies at Athens 2007.

3 At other palaces this part of the room is not preserved, or has not been found.

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68 A. L. d'Agata and J. A. Moody, eds., *Ariadne's Threads: Connections between Crete and the Greek Mainland in the Postpalatial Period (LM IIIA2 to LM IIIC)*. Tripodes 3. Athens: Scuola Archeologica Italiana di Atene 2005.

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75 A. L. d'Agata, "Central Southern Crete and its Relations with the Greek Mainland in the Postpalatial Period." In d'Agata and Moody 2005 (above, n. 68), 109–30; E. Hatzaki, "Postpalatial Knossos: Town and Cemeteries from LM IIIA2 to LM IIIC." In d'Agata and Moody 2005, 65–95.

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80 The author is grateful to Dr. Katie Demakopoulou for permission to reproduce this image.

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13: Burial Customs and Religion

13a: Death and the Mycenaeans

William Cavanagh

Introduction

From its very beginnings, Aegean archaeology has been haunted by graves: early travelers marveled at the Treasury of Atreus, nineteenth-century museum collections were enriched from rifled chamber tombs such as those on Rhodes, and Schliemann dazzled his contemporaries with reports of gold from the shaft graves at Mycenae (Ch. 11, pp. 258).[1] In the twenty-first century CE, this emphasis can seem misplaced: our concern is how people lived during the Bronze Age, not how they were buried. How can the study of burials be justified? Quantity is one justification: whereas the number of excavated settlements can be counted in tens, the number of cemeteries is in hundreds, tombs in thousands, and burials in tens of thousands. Moreover, whereas the more extensively excavated settlements are important palaces, the cemeteries give us a better feel for the smaller provincial centers, towns, and villages where most Mycenaeans lived. (Intensive survey has now also helped rectify that imbalance; Chs. 1, pp. 8–10; 12, p. 308). Furthermore, although funeral rituals are not everyday occurrences to tell us how people lived their everyday lives, archaeologists hope that the remains from the grave can inform us about important themes: social structure; status and wealth; the sense of community; the presentation of peoples' identities as male, female, or child or as official, craftsman, villager, or slave; the relation of individuals to their forebears.[2] Certainly such hopes may not always be fully realized. The way an individual is portrayed in ceremonies such as funerals can be manipulated by the living to misrepresent their own status and that of the deceased. Bias and misrepresentation can

mislead our interpretation of grave evidence, as of other archaeological and historical data, but other sources, archaeological and textual, provide a useful corrective. At the same time, there are limits to how much distortion a community will accept, so although this or that case may mislead, the many burials give quantitative ballast to our interpretations.

Analysis of human skeletons can throw light on patterns of life expectancy, health and disease, occupational injury, and population genetics.[3] In the present chapter, however, the emphasis is on ritual, and not on these further insights (still not widely applied in Aegean archaeology).

Tomb and Grave Types

The use of two types of tomb is broadly, though not exactly, coterminous with Mycenaean civilization in both its geographical and its chronological spread. These are the chamber tomb (Fig. 13.1) and the **tholos** tomb (round domed tomb; Fig. 13.2).[4] The chamber tomb is rock-cut; its **dromos** (entrance passage) leads underground to the **stomion** (doorway, marked by jambs and usually walled up with stones), which gives access to the burial chamber(s). The tholos tomb follows a similar plan with a subterranean chamber reached down a passage and through an entrance, but in this case the chamber and entrance are vaulted in dry-stone walling, not simply hewn out of the rock; the passage is also sometimes lined with stone. The origins of these two archetypal Mycenaean tomb types are not certain. Both may owe something to earlier Minoan tombs, but differ from them in design, in details of their construction (for example, the method of **corbelled** vaulting, with overlapping courses of blocks, used in tholos tombs; Ch. 11), and in the social groups they served.[5] On the other hand, tholoi can also be seen as a monumentalized version of the traditional burial mounds of the Middle Bronze Age. Indeed, the two types were the most successful response to a need that grew up in mainland Greece during the preceding Middle Bronze Age period, for collective (probably family) tombs. Like **tumuli** (burial mounds), shaft graves, and various types of built tomb, they are designed to be reopened at intervals for successive burials and to allow access for other ceremonies (below). In other words, the power of tradition and the luster of Minoan sophistication contributed to their genesis, but even more important factors were the social and political transformations in early Mycenaean Greece, which

demanded extravagance and display focused on the funeral (Ch. 10, pp. 242–51).

But tholos and chamber tombs are not the only kinds used during the Late Bronze Age. The tumulus or burial mound had a tradition going back 500 years before the Mycenaean period; widespread in MH, the type persisted in some parts of Greece (Ch. 10, p. 238). The individual graves within the rubble and earth mound can vary from simple pits to elaborate built structures, but the mound itself served to unite those buried within, and needed to be reexcavated with each new interment (Pl. 13.1).[6] Built graves also come in a variety of different designs, sometimes rectangular or oval with a small (false?) entrance in a corner or at one end, sometimes of a more irregular plan.[7] The shaft grave was also developed to be reopened: the lower "grave," which housed the skeletons, might be built or simply cut out of the rock, but had ledges and sometimes timbers to support the roof, which was often sealed with impermeable clay. The upper "shaft" would be back-filled with clay and earth.

In addition to the multiple tombs, there are also single graves.[8] The classic pit-grave was simply excavated out of the ground, whereas the cist grave had its sides lined with slabs or walling and would be covered with slabs, to form a box containing the burial. **Pithos** (large storage jar) burial, which was popular in the MH period, is surprisingly rare in Mycenaean Greece. This variety of tomb types arose in part from changes in fashion through time, in part from differing cultural traditions in different regions of Greece, and in part from variations in the status of the individuals buried.

Tombs and the Community

Burial, in the language of French anthropology, is a "collective representation," a way in which families and communities express their identities. Although chamber and tholos tombs are widespread and representative, not all Mycenaean communities used them. Indeed, in the early Mycenaean period, chamber tombs, though not uncommon in the Argolid, were rare elsewhere in Greece (Fig. 13.3).[9] Even in LH III, at the height of their popularity (Fig. 13.4), they were not widespread in, for example, Messenia (tholos tombs are known at more sites) or in Thessaly. Similarly, with the conspicuous exception of the Treasury of Minyas at Orchomenos, tholos tombs are unknown in

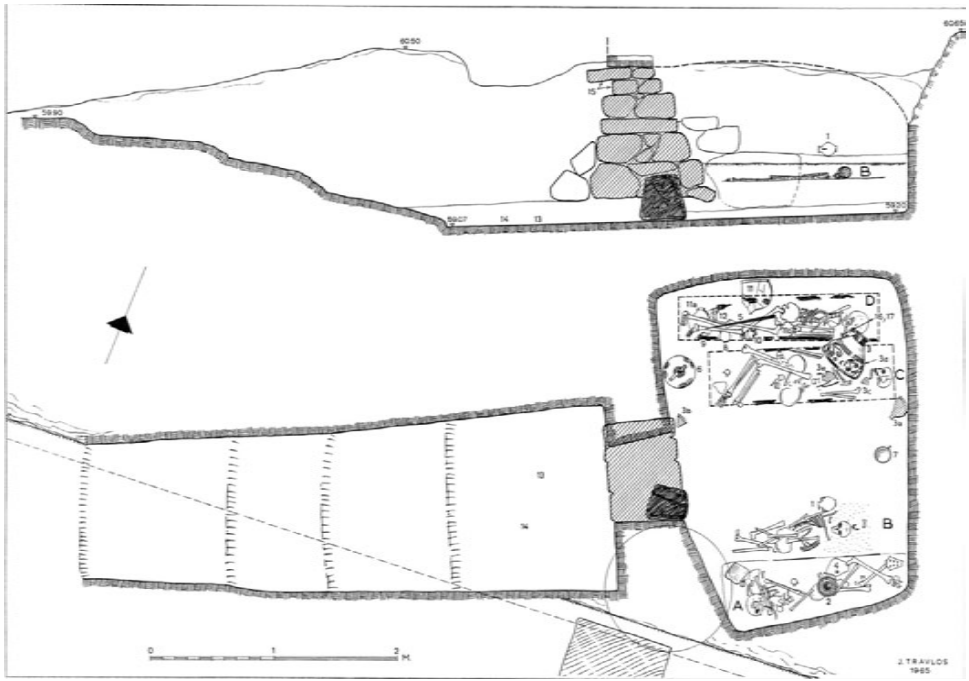

FIGURE 13.1. Plan and section of Athenian Agora Tomb 40 (N12:4), LH IIIA1. The tomb contained a mature adult male (C), a young adult male (D), an adult female (A), and an adolescent (B). A massive bronze spear-head (5) was found over the coffin that held (D). S. A. Immerwahr, *The Athenian Agora: Results of Excavations Conducted by the American School of Classical Studies at Athens* XIII: *The Neolithic and Bronze Ages*. Princeton: American School of Classical Studies at Athens 1971, pl. 90. © American School of Classical Studies at Athens. Courtesy of the Trustees of the American School of Classical Studies at Athens.

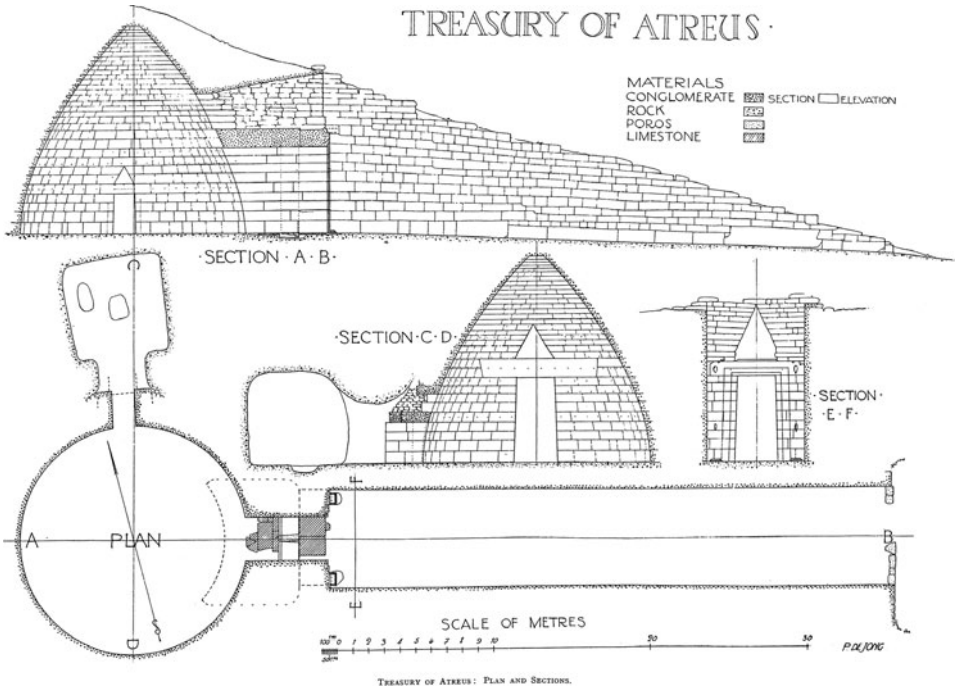

figure 13.2. Plan and sections of the Treasury of Atreus at Mycenae. A. J. B. Wace, *Chamber Tombs at Mycenae.* Archaeologia 82. Oxford: Society of Antiquaries 1932, pl. 56. Courtesy of the British School at Athens.

Boeotia, and only one has so far been found in the Corinthia. At some sites, factors such as local geology meant that small tombs were built of stone, because soft Tertiary sediments, preferred for chamber tombs, were not available; but frequently the choice was cultural. Thus the community at Eleusis clung to built tombs throughout the Late Bronze Age (whatever the people up the road in Athens did), whereas at Marathon–Vrana the even more old-fashioned tumulus burial was retained by one group (Pl. 13.1), even after a rival family built a brash new tholos tomb just 1 km away. The choice of tomb type conveyed a message: arguably, in the first case the people of Eleusis persistently over hundreds of years asserted tradition over fashion, and did not copy their Athenian neighbors. In the second case the juxtaposition is even more direct: through a "war of the tombs" rival families competed to express variously their status, leadership, traditional authority, or links to the powerful elsewhere.

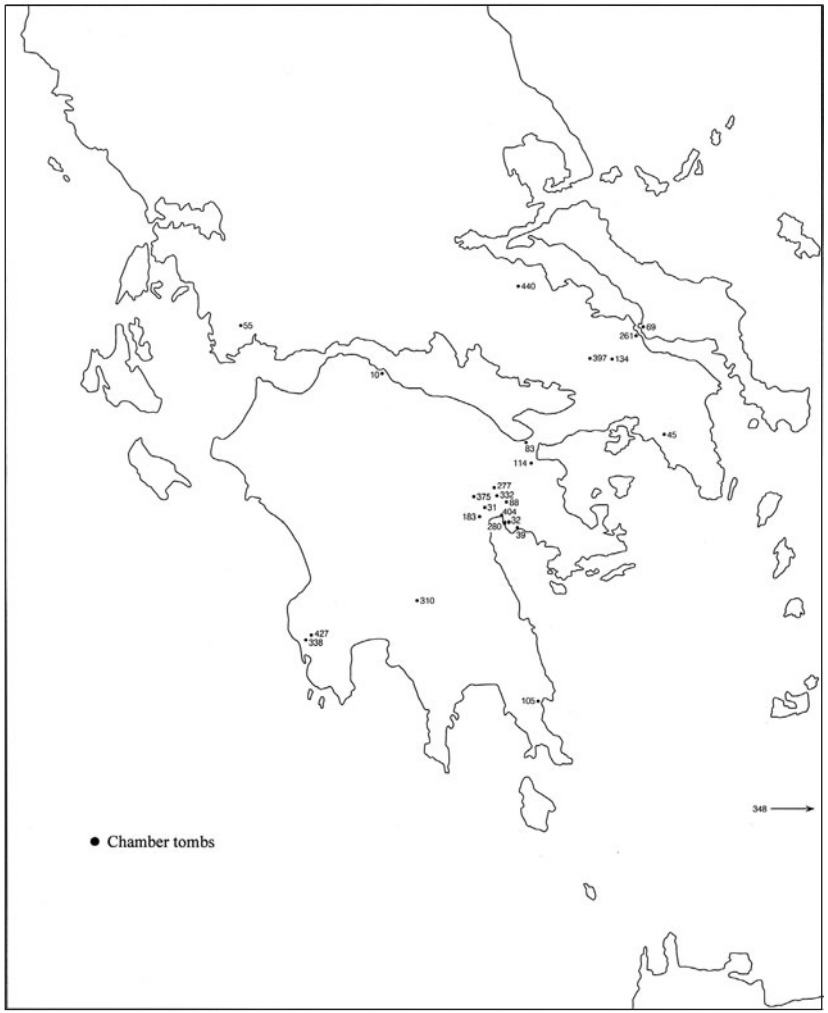

FIGURE 13.3. Distribution map of chamber tomb cemeteries on mainland Greece, LH I–II. After W. G. Cavanagh and C. Mee, *A Private Place: Death in Prehistoric Greece*. SIMA 125. Jonsered: Paul Åströms Förlag 1998, 196 Fig. 5.3. Courtesy of William Cavanagh.

We can infer that the first adoption of the chamber tomb was linked with the social and political upheavals that shook Greece at the beginning of the Mycenaean period (Ch. 10, pp. 246, 248). By the time of the transition to LH IIIA, two or three centuries later, smaller communities, the lower social classes, and provincials took them up in imitation of their more powerful neighbors. Similarly, some tholos

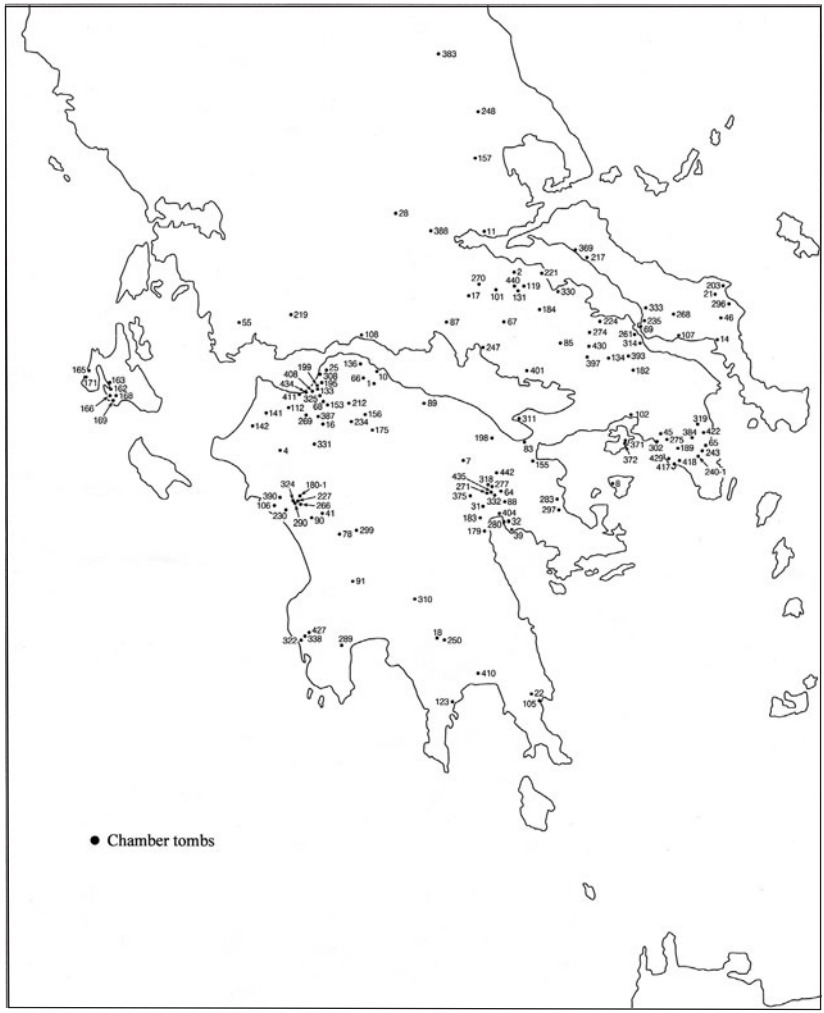

figure 13.4. Distribution map of chamber tomb cemeteries on mainland Greece, LH IIIA–B. After W. G. Cavanagh and C. Mee, *A Private Place: Death in Prehistoric Greece*. SIMA 125. Jonsered: Paul Åströms Förlag 1998, 216 Fig. 6.3. Courtesy of William Cavanagh.

tombs served for "princely" burials (below, pp. 334–5). On the edge of the Mycenaean world (the islands of Kephallenia, Zakynthos, Naxos, Tenos, Euboea, and Mykonos and the minor centers on Crete), and especially in the LH III period, lesser chiefs built small (about 6 m or less in diameter), less elaborate tholoi. Emulating the great kings of the major palatial centers, they need not have dominated wide territories, nor administered them through elaborate bureaucracies. It was

not only the choice of tomb type that differed from village to village: the most popular types of vase offering varied from cemetery to cemetery. Clay figurines (the famous phi, psi, and tau figurines, named after the Greek letters of the same shape; Ch. 11, pp. 272–3) were buried with the dead in some cemeteries and not in others, and there were rarer usages such as the **larnakes** (clay coffins) at Tanagra in Boeotia (Ch. 11, p. 270; Fig. 12.4 shows a Cretan example).[10] These variations in observance mark local beliefs and customs, undermining the view of a uniform Mycenaean culture imposed from above.

Burials and Social Structure

Thanks to the Linear B tablets, we know that the Mycenaean states had a hierarchy of officials below the **wanax** (king; Ch. 12, pp. 292–3). There also seems to have been a class of privileged individuals, the "collectors," who enjoyed wealth and were probably awarded sinecures by the king. There were craftsmen, such as bronzesmiths and masons. The local administrative district or **dāmos** (body politic) had legal standing, and its people were obliged to offer services to the king and/or to pay taxes (below, p. 353; Ch. 12, pp. 300–301). There were also, probably, large numbers of slaves. Matching the tablet picture to the burial one, however, has proved an intractable problem. To a degree, this very difficulty vindicates those who argue against a naïve interpretation of funerary remains. On the other hand, the historical depth offered by the archaeological evidence, its sheer quantity, and the uncertainties in interpreting the tablets encourage a more optimistic view of the value of burial evidence. The tombs reflect a social hierarchy, but it seems less clear-cut than the world of the Linear B texts. This fuzziness need not be misleading. The tablets also have a biased perspective, and those listed therein may not have seen themselves in the same light in which the bureaucrats saw them (Ch. 12, pp. 292, 306–8).

Let us take the example of the "princely" burials in tholos tombs. We might look at a cemetery such as Kokla, in the Argolid, with its large and elaborate tholos tomb dominating the surrounding chamber tombs, and conclude, not unreasonably, that the leading family was buried in the tholos and subsidiary families in the satellite tombs.[11] Analipsis in Arcadia is an equivalent with a large tholos surrounded by smaller tholoi and built tombs; interestingly, in neither case is it clear that the large tholos is the earliest tomb in the cemetery.[12] But

there are serious problems with the view that all tholos tombs (or even all *large* tholos tombs) were royal.[13] More than one tholos can be found to overlap in time at the same site (as at Pylos or Routsi in Messenia). Offerings in some chamber seem quite as magnificent as those in "royal" tholoi. There is a great range in the size and elaboration of the tholos tombs, from the very modest to the hugely monumental. In certain regions, such as southwest Greece, tholos tombs can also be associated with secondary centers, which at the time were evidently under the control of the main palaces. When such absolute definitions are confronted with the particular they seem to fail. This may be a problem of categories: "king," "royal," "princely" are ambiguous terms selected by the archaeologist, whereas "wanax," a genuinely Mycenaean word, may nevertheless have changed its meaning in ways we do not know during 500 years of Mycenaean history.

With these strictures in mind, we can nevertheless recognize broader trends. In the Argolid, though not at Mycenae itself, there is a tendency for the larger, richer tholoi to go out of use by LH IIIA. This trend has been associated with the increasing dominance of Mycenae; smaller powers were swallowed up, and though there was not necessarily a social prescription as to who could or could not use a tholos tomb, by LH IIIA2 it seems that tholos tombs were restricted to the capital.[14] Likewise, in Messenia, a pattern of some tholos tombs disappearing from use can be plotted against the expansion of the state of Pylos during LH IIIA and LH IIIB, but in this region some of the old family tombs continued at the secondary centers, and occasionally new tombs were built, as at Nichoria and Malthi (Ch. 12, pp. 242, 303).[15]

To take another example, the tradition of warrior burial in Greece goes back into the Middle Bronze Age, with the remarkable grave at Aegina the earliest in the series (Ch. 10, p. 242). The warrior had the very latest arms and armor including a sword and dagger decorated in gold, a shoe-socketed spear, and a boar's tusk helmet.[16] By the time of the Mycenaean palaces, warriors were buried in chamber tombs associated not only with major sites such as Knossos, Mycenae, and Athens, but also with secondary centers such as Dendra, Tanagra, and Phaistos on Crete (Ch. 12, p. 321). These warrior graves can be associated with the military machine hinted at in the tablets, though "the men held different ranks and/or were drawn from different levels of society."[17] In some cases we can suppose their weapons and armor were supplied by the palace, as indicated by the tablets, but buried with the individuals. Most impressive are the suits of armor; an intact cuirass was found at

Dendra (Ch. 11, pp. 274, 276), and fragments are known from other sites.[18] The status of various warriors, however, and the relationship between warrior and leader have a history that predated the palaces. To judge from the rash of warrior burials in the Postpalatial (LH IIIC) period, it also continued after their demise (Ch. 15, p. 399). We can conclude that an ideology of militarism formed part of the image of power for the Mycenaean elite, and over a long span of time there was a special relationship between the political leadership and at least certain warriors.

Context is everything, and other finds indicate that weapons could have a symbolic value: they were not merely tools of the trade. The Mycenae shaft graves, for example, contain many more than could have been used by those buried there, and a sword accompanied a child buried at Argos, perhaps signifying the warrior he might have become.[19]

Chamber tombs can vary from very large, carefully constructed sepulchers with rich offerings to small, poor ones.[20] Large centers such as Mycenae and Thebes had many cemeteries and hundreds of tombs; the recent survey of Mycenae has located over 250 chamber tombs in 27 different cemeteries.[21] Moreover, several hundred tombs are associated with lesser towns such as Tanagra and Perati, and even little hamlets like Melathria in Laconia could boast half a dozen. These are not the tombs of an elite minority; ordinary people were buried in them. They held men, women, and children in numbers to suggest they were normally family tombs. That said, female burials are seriously underrepresented, and, given a presumption of high child mortality, it is plain that many infants were not placed in the tombs. There is something of a paradox here, for certain children could be treated with great care, and offerings lavished on them.[22] This inconsistency might be read as the random response of different parents to untimely death; but it also appears that parents saw their own status reflected in display at their children's funeral. Some tombs, however, were reserved for children, or they could be buried in niches, not the main chamber. In these cases there was evidently a different rite as well as a different attitude to children. Another factor may explain the bias against women: admission to burial in a cemetery can be used as a sanction (people may be barred from burial in a Christian church's sanctified ground), and women who did not meet particular social requirements (for example, marriage by a particular age, or childbearing) may not have been admitted so easily to burial in a communal tomb.[23]

The construction of so many ancestral tombs, often in use for generations, implies a degree of stability in Mycenaean society. Making allowances for fads and where a reasonable sample is available, something of the history of settlements during LH IIIA–C can be discerned from the use of the tombs, though again this evidence needs to be combined with information from survey and excavation. Generally the larger cemeteries were subdivided into small clusters, usually of richer and poorer graves, which might reflect the association of richer and poorer in life as in death.[24]

Single graves are frequent, but still contain a minority of all Mycenaean burials.[25] Common in the Middle Bronze Age and Earlier Mycenaean period, by LH IIIA–B they served a mixture of adults and children. The customs and offerings do not seem to differ greatly from those for the dead buried in chamber tombs. The significance of single burial seems to differ from community to community. The simplest and the poorest graves may represent the least privileged members of society; it has been suggested that those at Tiryns held slaves, but we cannot be sure.

Conspicuous Consumption

The wealth lavished on some Mycenaean funerals, judging from the tombs themselves and their contents, was remarkable. The richest grave assemblages can be marked by redundancy (the many seals in the Vapheio tholos, the superfluity of weapons in Mycenae Shaft Graves IV and V), and in addition to being made of precious materials (gold, silver, copper, ivory, amber), the grave goods are often distinguished by superlative craftsmanship. Although restricted to the richest graves, such finds occur at many sites, especially in the earlier Mycenaean period (Ch. 11, pp. 259–61). The very extravagance of these offerings – the wealth deposited with the dead was effectively destroyed for the living and taken out of circulation – suggests not just piety to the memory of the dead, but a decided interest for the survivors: it brought prestige at a time when we may infer political rivalry and instability. Other forms of display such as palatial architecture are not to be found in mainland Greece at the beginning of the Late Bronze Age. Conspicuous consumption is also evident in the construction of the tombs. When the Treasury of Atreus (Fig. 13.2) was built, houses were demolished, thousands of tons of rock and rubble were excavated and removed, blocks of limestone and conglomerate were quarried and carted in, fine

stones were shipped from other parts of Greece, and skilled craftsmen worked for many months to finish the building (Ch. 11, p. 268). All this required tens of thousands of man-days; in expenditure of effort it was of the same order as building a temple in the classical period.[26] The wanax at Mycenae or Orchomenos commanded the construction of the Treasury of Atreus, the Tomb of Clytemnestra, or the Treasury of Minyas as a monument to his dynasty's power. But if not tens of thousands, the less elaborate tholos tombs of earlier generations still required thousands of man days to construct, at a time before the Mycenaean state had reached its maturity. Thus the early great tholos tombs are one of the signs that the basic relations of power and production were already in place, before the development of the full bureaucratic machine. Chamber tombs, requiring just digging out, demanded less time and effort. Even so, there are outstanding examples, such as the massive tholos-shaped chamber tomb at Pellana in Laconia or the great painted tomb at Megalo Kastelli, Thebes. Also, care could be taken in shaping the tombs, as at Dendra, where some of the chambers are carefully squared and their roofs gabled.

Mycenaean Funeral Ritual

We have good evidence, then, for the final deposition of a corpse in the grave. Yet the rituals that preceded this event – the laying out of the corpse, the wake and mourning customs, and the procession to the grave – were probably more important to those who participated in the funeral. We know much less about these rituals. For the early stages we rely on scenes painted on larnakes,[27] and vases have been found recently that also depict mourning and processional scenes (Pl. 13.2; Ch. 11, p. 272).[28] On the evidence of the larnakes, in particular, it is possible to suggest a reconstruction. Women took the lead in the **prothesis** (mourning the deceased on a bier). They are shown wearing the ordinary Mycenaean bodice; two groups are distinguished, painted black and red, and their leaders, presumably close kin to the deceased, dress the corpse and head a funeral dance. Their hair may be shorn and their faces scarred. Thus a symbolic contrast adds to the emotional charge, for the dead body would be washed and anointed with oil (to judge from the frequency of oil containers among the grave offerings), a play on notions of purity and pollution. Simple jewelry (often glass paste), clay buttons, and lead wire indicate that the body was dressed, but the larnakes show that the corpse was also clothed in a shroud. In the Mycenae

shaft graves we find an even more arresting reconstruction of the dead with masks (not portraits) and gold cut-outs (symbolic, and not taken from every-day dress) glued onto the shroud (Ch. 11, p. 259). Infants were wrapped in gold foil. The wake would be an occasion for relatives, the community, and wider connections: an audience for the ceremonial, and also witnesses to the social and political standing of the dead person.

From the two groups on the larnakes, we can infer that the funerary dance was antiphonal. In addition, the larnakes show two other distinct groups, female and male mourners dressed in "courtly" dress, attesting, if only in the ideal world of the picture, to the participation of the palatial elite.

No doubt many of the offerings found in the grave would have been displayed at the wake. In fact, very specific personal possessions (the craftsman's tools, the warrior's weapons, the dancer's cymbal, or the priestess's ivory casket) are not especially common. The more common offerings, such as dress, jewelry, and cosmetics, emphasize the social being, and the other vessels, containers for food and drink, the meal, the main occasion for social intercourse. Against this general background, subtle differences in the types of offering can be found in one cemetery or another: different communities expressed themselves by emphasizing different social qualities.

The **ekphora** (carrying a bier to a grave site) will have had a resonance beyond the funeral. Frescoes, vase paintings, and even the design of buildings indicate that procession was central to Mycenaean ceremonial.[29] In rare cases, as in the tholos at Marathon, horses were sacrificed and buried by the tomb; it is a natural assumption that they drew the hearse. The skulls and skeletons of horses, dogs, cattle, and other animals suggest a more general rite of animal sacrifice.[30] The traces of small fires reported in some tombs might imply burnt offerings. Although some of these offerings can be interpreted as personal to the deceased, there is an implication of sacrifice in certain cases, which brings us closer to ancestor worship (below, p. 340).

In the form of the chamber and tholos tomb we find a classic tripartite arrangement of passage, doorway, and chamber: the world of the living, open to the sky, the world of the dead in the dark interior, and the two mediated via the doorway.[31] In the richer graves the jambs and lintel of the doorway might be elaborately decorated.[32] This care confirms the evidence from finds of pottery that the opening of the doorway was an important moment in the conduct of the funeral.

Although some tombs had grave pits or benches, more usually the body was laid on the floor.

Post Funerary Ritual and Ancestor Worship

In a good number of cases excavators have observed that tombs and graves contained no skeleton in situ, even though the blocking or cover was intact and there was no sign of robbing. This is our best evidence that the Mycenaeans conducted a second funeral, sometimes called secondary burial.[33] Such a custom is known in many different cultures and normally explained as a "rite of aggregation," whereby the spirit of the dead person is thought to pass from a liminal and ambiguous status, belonging wholly neither to the living nor to the dead, to one where the deceased joins the ancestors. It appears that on this occasion the tomb was reopened and bones and with them random offerings were scooped up, taken outside, and then returned, and sometimes reburied in charnel pits. In some cases there are signs that intensive fires were lit inside the chamber, and these may have been a feature of either the first or the second funeral. We can be sure that the whole ceremonial was much more elaborate, perhaps including feasting, and probably involved a wider community than the immediate kin of the deceased.

Ceremonies such as these give added depth to the practice of collective burial and help us to understand why the chamber and tholos tomb had such an attraction to the Mycenaeans. The tombs were a statement about family identity: they anchored the family in a particular locality, they placed the ancestors there, a series of ceremonies restated at intervals the tie between the present and the past, and they looked to the future, when later generations would come to rest there too.

It is a small step from such conceptions to ancestor worship and the cult of heroes.[34] In the past archaeologists were curiously shy of admitting that there was ancestor worship in Late Bronze Age Greece. Some, reluctantly, granted the case of Grave Circle A at Mycenae, where an altar and other emplacements indicate continued cult activity. Ultimately the Circle was included in the grandiose refurbishment of the citadel's walls, which also saw the incorporation of the Cult Center, itself possibly to be linked with a cult of the ancestors (below, p. 350; Chs. 10, pp. 244–9; 12, p. 293). Textual references, notably to the "thrice-heroes" (Pylos tablets Fr 1204, Tn 316; below, p. 354; Pl. 13.3)

further corroborate the existence of hero worship. On close inspection a series of other archaeological clues serve to confirm the practice of an ancestor cult.

Suggestions for Further Reading

Boyd, M. J. *Middle Helladic and Early Mycenaean Mortuary Practices in the Southern and Western Peloponnese*. BAR International Series 1009. Oxford: Archaeopress 2002.

Cavanagh, W. G. and C. Mee. A *Private Place: Death in Prehistoric Greece*. SIMA 125. Jonsered: Paul Åströms Förlag 1998.

Georgiadis, M. *The South-Eastern Aegean in the Mycenaean Period: Islands, Landscape, Death and Ancestors*. Oxford: Archaeopress 2003.

Lewartowski, K. *Late Helladic Simple Graves: A Study of Mycenaean Burial Customs*. BAR International Series 878. Oxford: Archaeopress 2000.

Papadimitriou, N. *Built Chamber Tombs of Middle and Late Bronze Age Date in Mainland Greece and the Islands*. BAR International Series 925. Oxford: Archaeopress 2001.

13B: Mycenaean Religion

Thomas G. Palaima

Sources for Reconstructing Ancient Religion

Reconstructing the religion of an ancient culture is hard work. Religious beliefs and practices consist of things thought, said, shown, and done. In the material record, we look for the locations where rituals were performed, the objects and materials used in ceremonies, and artistic representations (iconography) of such activities. If we are lucky, we will have written religious texts containing sacred myths that serve both as the "verbalization of ritual" and as a record of a culture's religious belief system, their thoughts about how human beings relate to supra-human powers.[35] Depending on how a religion is structured within a given society, such written documents can be fixed and canonical, or they can vary according to time and place. We may also have other texts (mainly inscriptions) that reflect what people are doing or are expected to do as forms of religious practice (often grouped together as "sacred laws"),[36] who those people are (their religious titles, occupations, personal names), where they are doing these things, what they are using, and the obligations and benefits that motivate them.

The Nature of Written Sources for Mycenaean Religion

For Mycenaean religion, we have a limited amount of clear archaeological, iconographical, and artifactual data, and we have the information contained in the Linear B records.[37] These tablets were produced, however, by anonymous tablet-writers in order to keep track

of economic information related to the operation of the Mycenaean palatial centers (Chs. 1, p. 13; 12, pp. 291–2). We find in the Linear B tablets no myths, hymns, prayers, ritual prescriptions or laws, or sanctuary regulations; nor are there any inscriptions written by or for dedicators upon dedicated objects. The limitations and peculiarities of our archaeological and inscriptional data thus present interesting challenges. For help we may look backward, sideways, and forward from Mycenaean religion (1) to elements borrowed from earlier Minoan culture and from the preexisting "substrate" culture(s) of the Greek mainland and the general Aegean area (called "substrate" because they were eventually "submerged" in the dominant Mycenaean Greek culture); (2) for the influence of contemporary eastern Mediterranean and Near Eastern cultures; and (3) for similarities and differences between Mycenaean religion and later Greek religion. Here, too, the data are limited and come with their own sets of problems.

For any given site, tablets cover at most five to seven months from the administrative periods under way when the palatial centers suffered burning destructions (Chs. 1, p. 13; 15, p. 390). Therefore, we cannot study religion through time at any site in order to see whether ritual practices reconstructed from the tablets were standard or exceptional. For example, Pylos tablet Tn 316 (below, p. 354; Pl. 13.3) was long viewed as a record of extraordinary ritual actions, perhaps even including human sacrifice, undertaken during an extreme crisis. Study of the internal chronology of the Pylos archives has cast doubt on this interpretation.[38] Another problem is that the texts are peculiarly focused and shorthand in style, making it difficult to identify religious terminology (mainly functionaries and divinities) from their lexical forms alone. It took Mycenologists years to figure out that *ka-ko na-wi-jo* on Pylos tablet Jn 829 was "temple bronze" and not "ship bronze" (below, p. 350).[39]

Methods of contextual association help us to identify "religious" entities in the texts. We work by extrapolating from known items to unknown items. But even here we run into trouble because the purpose of many texts or series of texts was to record the distribution of commodities, whether for religious or nonreligious purposes. Religious officials may thus be listed alongside "private" individuals and secular occupations or titles. It is then a serious problem of method that a few religious terms may take precedence over a larger number of indeterminate entries in deciding whether a tablet has a religious purpose or not. In interpreting records that associate deities and sanctuaries with

shipments of goods and materials, we try now to distinguish between offerings (going directly to the deities as an explicit religious act) and deliveries (to be used in support of sanctuary operations, only a secondary act of religious piety).[40]

Still, because we have identified these problems, we can cautiously use the Linear B tablets and our understanding of historical Greek religious practices, including those reflected in the traditional texts of Homer and Hesiod, to reconstruct Mycenaean religion.

What Religion Is and How We Might Find It

In order to know what to look for, we need to make clear what religion means. At its most basic, religion is a "system of thought founded upon belief in an unseen and non-material world interacting with the visible world around us."[41] Religion serves as a significant cultural marker, "a unified set of beliefs and practices relative to sacred things" that unites a community.[42] Historical Greek religion had an overall ritual framework and belief structure, but it was uncanonical, undogmatic, and improvisatory.[43] Nothing in our evidence for Mycenaean religion suggests that it was any different.

Religion is also a natural social response to the chaos of human existence that brings human beings to the limits of their analytical capacities, powers of endurance, and moral insights.[44] Given the precarious nature of human existence in the late Bronze Age, religion is likely to have been omnipresent in the daily lives of the Mycenaeans. We get some sense of this from the distribution of the distinctive Mycenaean small clay psi- and phi-shaped human figurines. These are found as offerings, grave goods, and possibly apotropaic objects in domestic contexts (above, pp. 332–3; 11, pp. 272–4).[45] They provide good evidence for the spread of religion through the population, and our textual evidence confirms how it permeated Mycenaean society.

Ample data for religion are found in the four largest collections of Linear B tablets (Knossos, Pylos, Thebes, and Mycenae) and on a single tablet from Chania on Crete. Because we lack Mycenaean mythical or ritual texts, however, much about the religious thought, beliefs, and practices of the Mycenaeans is forever lost to us. But we can compensate by imagining how these inhabitants of the late Bronze Age Aegean would have felt about the world around them.

Mycenaean Religious Attitudes

Mycenaean religion was serious business. The "days" section of Hesiod's *Works and Days* catalogs religious prescriptions and prohibitions governing many facets of normal daily life in Greece in the eighth century BCE. It reminds us how pervasive and necessary religion was. In the traditional texts of the *Iliad* and *Odyssey* of Homer and *Works and Days* of Hesiod, the gods and other supernatural forces influence human actions. Dire consequences ensue for individuals, communities, and leaders who offend deities or priests, neglect rituals, or fail to follow divine directives or ensure divine good will. The Mycenaean Greeks undoubtedly had similar views about their own relationship with the gods.

Greece is a country with very limited resources. The populations in its various regions have always struggled to develop and defend their human and material assets. In doing so, Greek communities in prehistory and history appealed to the gods for assistance. In the Mycenaean period, palatial centers organized society to produce tradable goods that could be exchanged for basic necessities, such as the copper and tin needed to make bronze, and also for luxury goods and precious raw materials.[46] The order, security, and relative prosperity introduced by the Mycenaean palatial system would have been highly appreciated. Rituals designed to secure divine favor and thereby keep the prevailing order intact would have been practiced scrupulously at all levels of society. The palatial centers themselves served as focal points of rituals of unification and divine propitiation that each Mycenaean king, or wanax, performed on behalf of his territory.[47]

Traces of Diversity in Mycenaean Religion

Students of historical Greek culture rightly speak of Greek religions in the plural.[48] Likewise, in prehistory we may look for different sources of influence, both Indo-European and non-Indo-European. The Indo-European Greek-speakers borrowed and adapted ideas from the "substrate" population groups that lived on the Greek mainland and Aegean islands before their arrival (Ch. 2, pp. 38–41). They were also influenced by neighboring Minoan, Semitic, and Anatolian cultures. We also look for differences in religious thought and practice chronologically, region to region, across social strata, and between state (official) and popular cults.[49]

The Linear B evidence helps us see how much archaeological evidence for religion is missing, and indeed little is known about the material side of Mycenaean ritual practices.[50] Most key elements of earlier Minoan religion (Ch. 7, pp. 165–70) either are not found in Mycenaean times or become negligible in later phases of the Mycenaean palatial period. Absent are Minoan architectural features that are linked with religious activities (Chs. 6, p. 148; 7, pp. 165–6): **lustral basins** (small sunken rooms of unknown function; Pl. 6.4), pillar crypts, **polythyra** (rooms with pier and door partitions; Pls. 6.6, 6.7), and incurved altars. Other Minoan elements are minimally attested: three-dimensional **horns of consecration** (a symbol shaped like abstract bull horns), double axes (both symbolic miniatures and functional bronze axes), and the stone Minoan chalice. Sanctuaries and cult places identifiable on the Middle and Late Helladic mainland are few (Fig. 13.5; Ch. 10, p. 249).[51] No cult locales on the Mycenaean mainland have the distinctive features of Minoan peak sanctuaries.

Iconographical Evidence for Mycenaean Religion

Iconographical representations of ritual practices are found on seals (and seal impressions) and in frescoes. Among the activities shown are processions, libations, sacrifices, feasting, and musical performance (Fig. 13.6).[52] During the palatial period, the Mycenaeans used seals with Minoan motifs, including clearly religious motifs.[53] But it is hard to disentangle what the Minoan elements meant to the Mycenaeans.[54] For example, the Mycenaeans were selective about the Minoan religious motifs they used on their seal rings. Either they are found in regions heavily influenced by Minoan culture such as Messenia, or the Mycenaean users reinterpreted them.

One big surprise is the almost complete absence from Mycenaean seals of representations of ecstatic divine epiphany (Ch. 11, pp. 279–80).[55] There is persuasive linguistic and textual evidence that the Mycenaean Greeks were influenced by Minoan notions of divine apparition in constructing their beliefs of what gods are and how they manifest themselves to human beings. They, and the later Greeks, used a word for "deity" (*theos*) constructed from a different Indo-European root than in other Indo-European cultures. Especially when used in compound words, the root (*thes-*) conveys the peculiar sense of the eerily instantaneous presence of a supernatural force.[56] Yet, unlike the

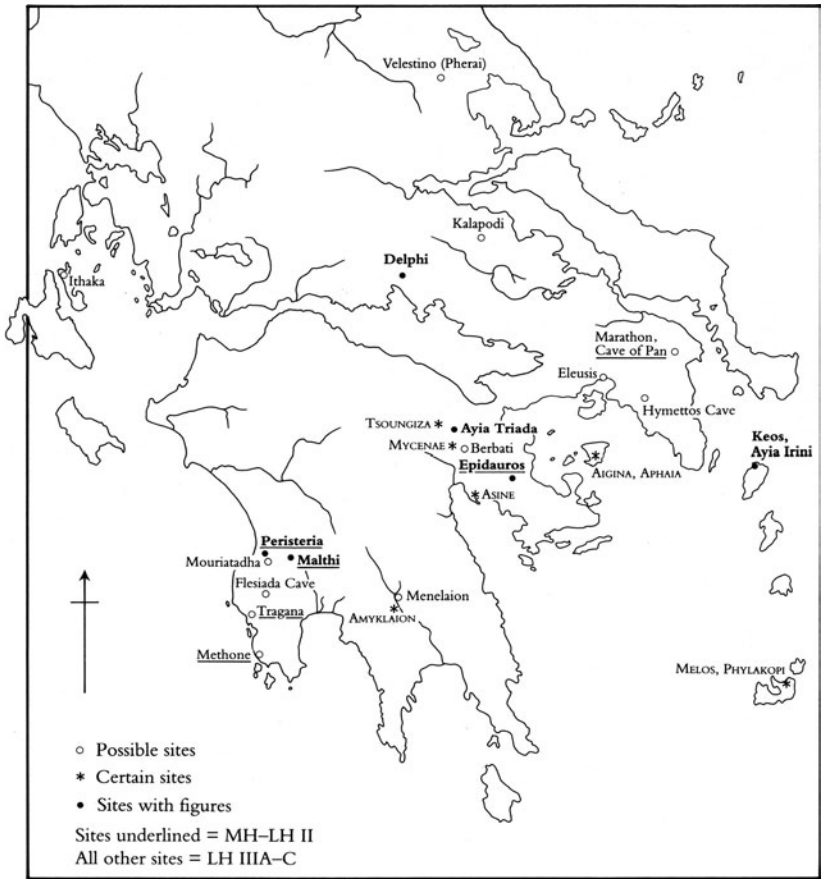

figure 13.5. Map of MH and LH sanctuary locales. J. C. Wright, "The Spatial Configuration of Belief: The Archaeology of Mycenaean Religion." In *Placing the Gods: Sanctuaries and Sacred Space in Ancient Greece*, edited by S. E. Alcock and R. Osborne. Oxford: Clarendon Press 39, ill. 3.1. Courtesy of Susan Alcock.

Minoans, the Mycenaeans did not attempt to display this aspect of divinity pictorially.

Krzyszkowska argues that seals were originally acquired by elites in the Mycenaean Prepalatial period and that, even when a more widespread "popular" style developed in LH III A, seals remained restricted to elites and subelites, including those in marginal regions.[57] The Minoan religious symbolism so prominent in artifacts from the shaft graves at Mycenae may have been confined to elites. Elements of Minoan religious iconography would have been phased out of the broader Mycenaean religion of later palatial culture.[58]

Homer and Long-Term Religious Continuity

It has fallen out of fashion to use Homer to explicate Bronze Age society.[59] Most scholars recognize some features of Bronze Age origin in the Homeric epics, but the old view of Moses Finley now prevails among all but a few scholars: Homer is "no guide at all" to the Mycenaean period.[60] One main obstacle is the gap of fifteen generations or more between the collapse of the Mycenaean palaces and the process of shaping the Homeric epics into their present forms in the historical period.

Nonetheless, there is a clear similarity between the portrayal of Nestor and the kingdom of Messenia in *Odyssey* Book 3 and the picture derived from the Pylos Linear B tablets and the iconographical program of the Palace of Nestor. In both cases, a specific palatial center and its leader are preoccupied with ritual piety and territorially unifying ceremonies. It is arguable that the kings of Pylos and Messenia were not fictionalized as exemplars of kingly and communal piety, but were incorporated and preserved in the oral tradition as a "true" historical memory.[61]

Mycenaean and Historical Greek Religion

Mycenaean religion shows many features intrinsic to historical Greek religion. The distinctive Greek terms *theos* and *hieros* (*hiereus*) are used for the concepts of "deity" and "holy" ("holy man"), as in Homer, Hesiod, and later Greek historical culture.[62] The Mycenaean terms for sacred space (*nawos* for "temple," literally "dwelling place of the deity," and *temenos* for "space cut out" of communal land) survived into the historical period. Mycenaean offerings clearly follow the historical Greek principle: "we give to you gods, so that you may give to us." The palatial centers carefully recorded their "giving" to sanctuaries and the gods within them: mainly shipments of oil and honey, but also of grains, spices, figs, and cloth.[63] We do not always know whether such offerings were made as part of public ceremonies, but month names seem to be recorded only on religious offering texts.[64]

According to the textual evidence, the major deities with sanctuaries were Poseidon, Zeus, and Diwia (a female deity derived like Zeus from the Indo-European root concept of "shining" sky). Of other deities recognizable from later Greek religion,[65] Dionysus and

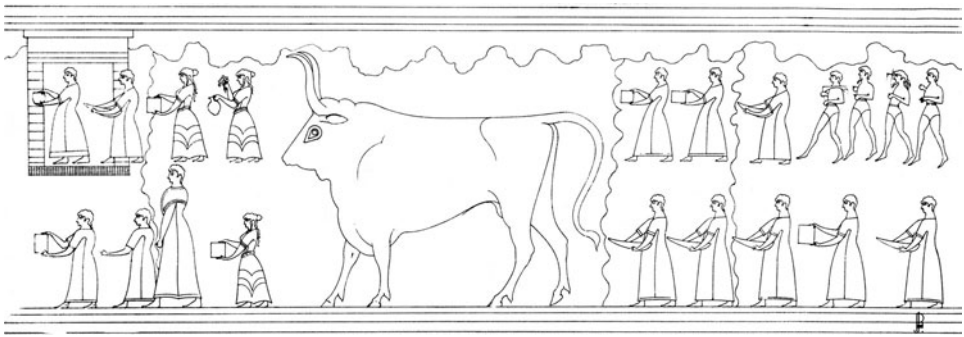

figure 13.6 Drawing of the procession fresco from the Pylos palace, Room 5. M. L. Lang, *The Palace of Nestor at Pylos in Western Messenia* II: *The Frescoes*. Princeton: Princeton University Press 1969, pl. 119 top. Courtesy of The Department of Classics, University of Cincinnati.

Hera received offerings within sanctuaries of Zeus at Chania and Pylos, respectively, whereas Hermes, Artemis, and a Zeus of Mt. Dikte received offerings at localities, without any specifications of their particular sanctuaries. In some cases this may have been a bookkeeping convention, indicating that the palatial center sent the materials to officials at particular sites who in turn would have seen to their delivery to the sanctuaries per se. There were also sanctuaries devoted to minor deities: at Knossos a sanctuary of Daedalus and at Pylos sanctuaries to Iphemedeia and to a deity known probably as ∗*Pretwā*.

The greatest surprise is Dionysus, whose possible attestations in the texts were long denied on grounds that he should have come into the Greek pantheon sometime after the Bronze Age. Now he is found at Chania (tablet Gq 5) as the recipient of an offering of honey in the sanctuary of Zeus. At Pylos, a fire altar (*eskharā*) of Dionysus is registered (tablet Ea 102) in a district where landholdings of individuals associated with the official known as the **lāwāgetās** (second-ranking official of the state) are recorded.[66] This sets Dionysus apart from the other main gods (Zeus, Potnia, Poseidon, Hera, Hermes), who are located in the district of *pa-ki-ja-ne*, Sphagiānes (the main sanctuary connected with the palatial center of Pylos, literally "the place of slaughter"), and thereby closely associated with the Mycenaean king or wanax.

Conspicuously absent, of the major first-millennium bce Greek deities whose presence we might expect to be attested in the Mycenaean period, is Demeter. It is our opinion that Potnia fulfilled this role, especially in her manifestation as *sitōn potnia* (Potnia of grains) in

tablet Oi 701 from the Citadel House at Mycenae, and in her image in the Room of the Frescoes from the Cult Center at Mycenae (Fig. 13.7; Pl. 11.7; Ch. 11, pp. 264, 270).[67] Attempts to identify within the new Thebes tablets a holy triad of Demeter (identified as *Mā Gā* or "Mother Earth"), Zeus (identified solely by an epithet misinterpreted as "of the fall harvest"), and Persephone (identified merely by her epithet Kore, "maiden") and their attendant ritual functionaries[68] are unconvincing for internal contextual, etymological, and linguistic reasons.[69] These terms and another fifty or so human recipient entries occur repeatedly on a unified set of fifteen to eighteen tablets (the Fq series). They are best interpreted as records of a half-month of routine daily allotments of grain. These Theban texts do not display any religious vocabulary of the kind found on other Linear B religious texts: month names; vocabulary of offering, donation, sanctifying, ritual payment; known deities; sanctuaries and cult buildings (∗*na-wo* "temple"; ∗*wo-ko* "home"; ∗*dō* "building"). Likewise, attempts to identify theriomorphic (animal-formed) deities in the texts have been soundly refuted.[70]

Mycenaean Festivals and Sanctuaries

A few texts contain festival designations that give us insight into ritual practices: "the bringing forth of the throne(s)" (*to-no-e-ke-te-ri-jo*), "the strewing of the bed" (*re-ke-e-to-ro-te-ri-jo*), "the girding of the bearers" (*po-re-no-zo-te-ri-ja*), "the carrying of the gods" (*te-o-po-ri-ja*).[71] The name of the last ceremony has inspired an imaginative re-creation of how the architecture, clay cult figurines, and processional way of the Cult Center within the citadel of Mycenae might have been put to ceremonial use (Fig. 13.7).[72]

A number of sanctuaries are recorded in the Linear B tablets at locations away from the palatial center of Pylos. Some of these have names formed directly from gods' names. This evidence compensates for our inability to locate such cult locales archaeologically.[73] For example, on Pylos tablet Jn 829 all sixteen administrative districts of the palatial territory of Messenia have *nawoi*, which means "dwelling places" of the gods (above, p. 342; Ch. 12, p. 295). Religious officials (*dumartes* "masters," *pro-dumartes* "vice-masters," and *klāwiphoroi*, "keybearers") in each of these districts interacted with palatial officials known as the *korētēr* and *pro-korētēr* (the mayor or governor and his deputy; Ch. 12, p. 301) in the deaccessioning and

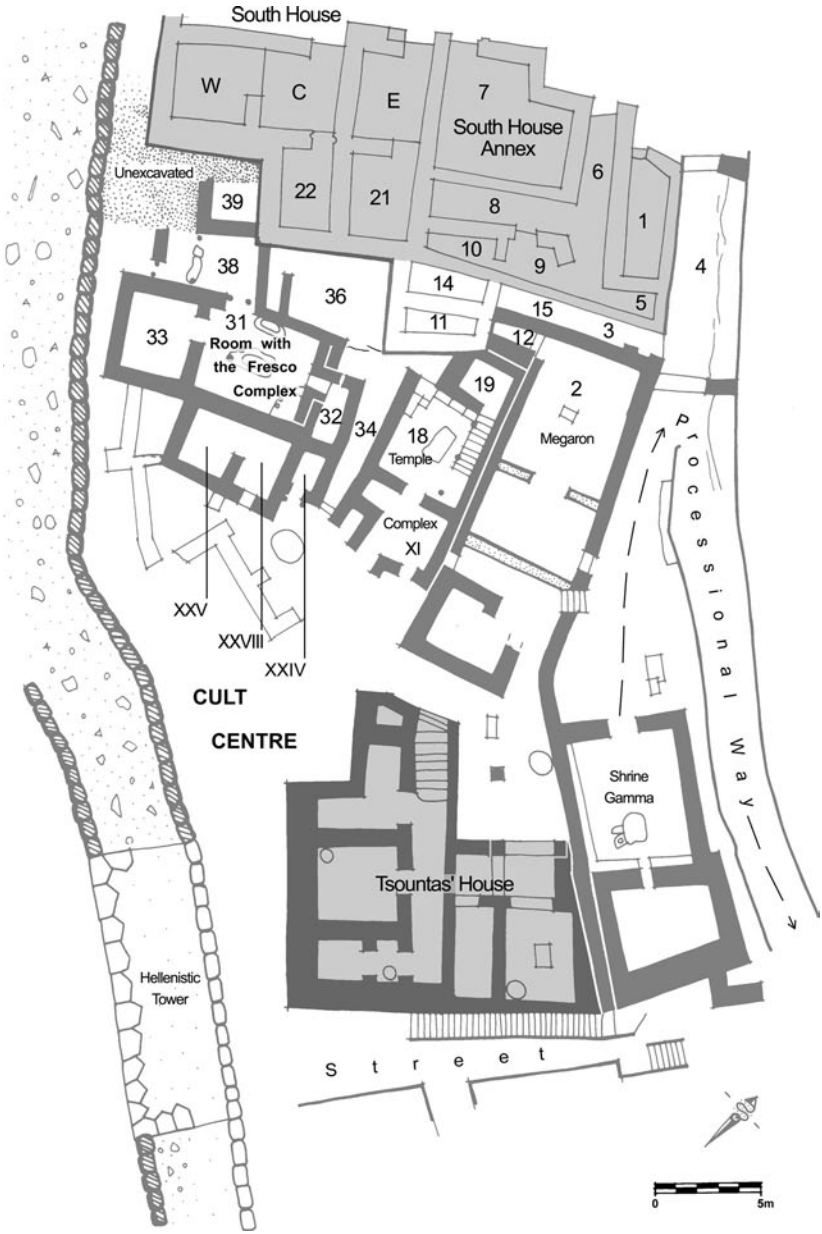

FIGURE 13.7. Plan of the Cult Center at Mycenae. © Mycenae Archive. Courtesy of Elizabeth French.

recycling of bronze objects (dedications and tools) "owned" by the temples.

The district of Sphagiānes, still not securely identified on the ground, seems to have contained many individual sanctuaries. Foodstuffs for a feasting ritual in honor of Poseidon at the site of *sa-ra-pe-da* are recorded on Pylos tablet Un 718.[74] But we do not know whether these items were brought to the site in a ceremonial procession, such as the one depicted in the fresco program of the palatial center at Pylos (Fig. 13.6; below, p. 353; Ch. 11, p. 270)[75] or were simply transferred in a routine and practical way.

Minoan or Substrate Features in Mycenaean Religion

There are some features of Mycenaean religion that we can attribute to the early influence of Minoan culture or the "substrate" cultures of the Greek mainland. A few minor deities with clear "Minoan" name-formations occur at Knossos (*pi-pi-tu-na*) and Pylos (*a-ma-tu-na*) (compare the historically attested goddess *Diktunna*); and the etymologically obscure name of the historical Greek Olympian goddess Artemis occurs in a form that shows a distinctive "substrate" vowel treatment: ∗Artimis (with *i* in the second syllable instead of *e*). But the most conspicuous feature of religious belief that the Mycenaean Greeks derived from earlier cultures is the widespread worship (at Knossos, Pylos, Thebes, and Mycenae) of the female deity known by the Greek term *potnia* (literally "she who has power"). Potnia had many epithets, indicating many manifestations.[76] She was connected with horses and grains, with the *daburinth* (whatever this variant of "labyrinth" meant during the Late Bronze Age), with the site of Sphagiānes, and with Assuwa (later Asia), a territory in central western Anatolia.

Yet another non-Indo-European feature of Mycenaean religion is the appearance of the deity who became known and widely worshipped as Athena in the first millennium BCE. She appears in Knossos tablet V 52 as the Potnia of *Athānā*, a pre-Greek place name (note the distinctive *-ānā* suffix and compare *Kullānā, Priānā* and *Mukānā*, later *Kyllēnē*, *Priēnē* and *Mykēnai*). In the Mycenaean texts, she is clearly the powerful female deity of the site known as Athens. Later she will be transformed, as we see already in the *Iliad*, into a deity generally worshipped as the "goddess of warrior nearness."[77] In the *Iliad*, she is still commonly referred to as the "Athenian Potnia."

Archaeology, Texts, and Religious Practice

As suggested above (p. 350), archaeology and texts come together best in the rituals of processional offering and feasting. The canonical central **megaron** (an axial building unit consisting of a main room with an anteroom and/or porch) within Mycenaean palatial centers was a place of royal ritual.[78] The central hearth reminds us of the importance of fire to Greek communities and of the goddess of the hearth, Hestia. She is unattested in the Linear B tablets for the same reason that she was not anthropomorphized in the historical period. She was a stationary concrete object, the central focus of the Mycenaean palatial centers and, by extension, of their palatial territories.[79]

At Pylos in the main megaron, Room 6, we have evidence for the throne emplacement and for libation ritual (Fig. 12.1).[80] The wall frescoes from Room 6 show paired seated banqueters and a bardic performance. Frescoes in Anteroom 5 symbolize the unification of the community whose members bring offerings for a feast, including a supra-scale bull being brought in for sacrifice (Fig. 13.6). Related texts, both on tablets and on clay **sealings** (lumps of clay impressed by a seal; Fig. 1.3), that were associated with the deliveries of animals for sacrifice and consumption, give evidence that the major components of society joined together in such events: the king (wanax), the military leader (lāwāgetās), the dāmos (the collective body that saw to the distribution of communal land in individual localities; it may not yet mean "body politic," but see above, p. 334; Ch. 12, pp. 300–301), and a group that arguably represents outsiders (compare the large and economically important class of resident aliens in historical Athens known as *metoikoi*, "metics"). These "outsiders" performed military service for the community and in compensation received marginal land to work.

Sacrifices of bulls are a prominent feature of seal iconography, and the tablets record the stunning axes and slitting knives used in sacrificial ceremonies,[81] "the core ritual of Greek religious practice" from the Bronze Age and throughout the Greek historical period.[82] In one instance (Pylos tablet Un 2), an official known as the *∗o-pi-te-u-ke-e-u* (literally "the overseer of paraphernalia") is recorded as in charge of the foodstuffs being collected for a major sacrificial feast. Recent restudy of faunal evidence from the palace has revealed the remains of feasting for considerable numbers, probably over 1,000 people. Moreover, the state of these bones (burnt after the meat was removed) suggests sacrificial activity, rather than mere culinary practice. The species represented (predominantly male oxen, with at least one red deer) conform better

to the iconography in the wall paintings described above than to the more varied list of species in documents (oxen, sheep, goats, pigs). The location of one deposit of bones, along with miniature **kylikes** (stemmed drinking cups) in Archives Complex Room 7, suggests a role for palatial administrators in monitoring the proper fulfillment of such rituals and the numbers of high-ranking participants for whom special seating was provided.[83] Finally, the huge numbers of ceramics stored in palace pantries accessible either to inner courts or upon entry to the palatial complex (Ch. 12, p. 291), including kylikes and various bowls for food, are consistent with the numbers suggested by quantities on documents and by the faunal evidence.[84] Gold Mycenaean kylikes, bowls, and Minoan chalices are recorded on Pylos tablet Tn 316 as "sent" or "sanctified" to Potnia, Zeus, Hera, Hermes, and minor deities (Pl. 13.3).[85]

A Last Look at Homer

In conclusion, we might recall the massive community-uniting sacrifices of bulls conducted by Nestor in Homer's *Odyssey* Book 3. There Telemachus, son of Odysseus, arrives, searching both for his father and for role models – his own has been absent for many years – of the "good king" that he himself is on the verge of becoming. He immediately sees nine companies of men (compare the nine main communities in the Hither Province of Mycenaean Pylos), each sacrificing nine bulls under the supervision of their good king Nestor. This scene defines the main characteristic of the king of Pylos throughout this book: his pious attention to religious ceremony.

This is the same aspect of rulership that we see most in evidence in the iconographical program of the Palace of Nestor, in its archaeological remains, and in the Linear B textual documentation from Pylos. The description of the king of Pylos in *Odyssey* Book 3 then looks not like fiction, but like preserved traditional memory slightly "heated up" for emphasis.

Conclusions

It is doubtful whether we shall ever understand Mycenaean ritual beliefs as fully as we do later Greek religion. The Mycenaean Greeks did not write down in preservable form sacred myths, sacred laws, ritual

prescriptions, or even the names of pious dedicants. Material evidence for sanctuaries and sanctuary structures away from palatial centers is virtually nonexistent. Iconographical evidence is incomplete when we move beyond images of simple and central practices: animal sacrifice, communal processions, and bardic performance. On seals, unlike the Minoans, the Mycenaeans chose not to represent gods appearing to human beings. The Linear B texts give us the basics: the names of gods worshiped, in some cases where they were worshiped, the titles of cult practitioners, cult implements, cult locales, and cult buildings, and the vocabulary for "holy," "deity," and "offering." They sometimes record who offered what to whom, where, and when.

By combining different categories of evidence and by cautiously using different interpretative approaches, we do know roughly how the Mycenaeans fit into the evolution of religious practices and basic religious notions in the Aegean area from the Minoans and pre-Greek inhabitants of the southern Balkan peninsula to the well-attested historical Greek communities of the historical period. We have suggested, too, that the Homeric poems may be more useful in preserving some form of authentic memories of Bronze Age religion than it is now fashionable to accept.

Suggestions for Further Reading

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Notes

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5 S. Voutsaki, "Mortuary Evidence, Symbolic Meanings and Social Change: A Comparison Between Messenia and the Argolid in the Mycenaean Period." In *Cemetery and Society in the Aegean Bronze Age*, edited by K. Branigan. Sheffield Studies in Aegean Archaeology 1. Sheffield: Sheffield Academic Press 1998, 42–3 [41–58]; M. Boyd, *Middle Helladic and Early Mycenaean Mortuary Practices in the Southern and Western Peloponnese*. BAR International Series 1009. Oxford: Archaeopress 2002, esp. 92–9.

6 S. Müller, "Les tumuli helladiques: Où? quand? comment?" *BCH* 113 (1989) 1–42; Pelon 1976 (above, n. 4).

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8 K. Lewartowski, *Late Helladic Simple Graves: A Study of Mycenaean Burial Customs*. BAR International Series 878. Oxford: Archaeopress 2000.

9 Cavanagh and Mee 1998 (above, n. 2), 196 Fig. 5.3.

10 Figurines: W. Cavanagh, "Innovation, Conservatism and Variation in Mycenaean Funerary Ritual." In Branigan 1998 (above, n. 5), 103–14. Larnakes were rare on the mainland, though common on Crete: T. Spyropoulos, "Mycenaean Tanagra: Painted Sarcophagi." *Archaeology* 25 (1972) 206–9. Children were placed in clay larnakes at Vreserka and Prosymna in the Argolid: Cavanagh and Mee 1998 (above, n. 2), 72. Burial in wooden coffins seems to have been a sign of status: Cavanagh and Mee 1998, 54–5; R. Hägg and F. Sieurin, "On the Origin of the Wooden Coffin in Late Bronze Age Crete." *ABSA* 77 (1982) 177–86.

11 K. Demakopoulou, "The Burial Ritual in the Tholos Tomb at Kokla, Argolis." In *Celebrations of Death and Divinity in the Bronze Age Argolid*, edited by R. Hägg and G. Nordquist. Acts of the Swedish Institute at Athens 4°, XL. Stockholm: Swedish Institute at Athens 1990, 114 fig. 1 [113–23].

12 K. Kalogeropoulos, *Die frühmykenischen Grabfunde von Analipsis (südöstliches Arkadien)*. Vivliothēkē tēs en Athēnais Archaiologikēs Hetaireias 175. Athens: Hē en Athēnais Archaiologikē Hetaireia 1998, pl. 2.

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15 J. Bennet, "Space through Time: Diachronic Perspectives in the Spatial Organisation of the Pylian State." In *POLITEIA: Society and State in the Aegean Bronze Age*, edited by R. Laffineur and W.–D. Niemeier. Aegaeum 12. Liège and Austin: Université de Liège and University of Texas at Austin 1995, II, 587–602.

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18 Nichoria: N. C. Wilkie, "The MME Tholos Tomb." In *Excavations at Nichoria in Southwest Greece* II: *The Bronze Age Occupation*, edited by W.A. McDonald and N. Wilkie. Minneapolis: University of Minnesota Press 1992, 276–9 [231–344].

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20 W. G. Cavanagh, "Cluster Analysis of Mycenaean Chamber Tombs." In Laffineur 1987 (above, n. 13), 161–9.

21 K. Shelton, "The Chamber Tombs" and "The Cemeteries." In *Archaeological Atlas of Mycenae*, edited by S.E. Iakovidis and E.B. French. Vivliothēkē tēs en Athēnais Archaiologikēs Hetaireias 229. Athens: Hē en Athēnais Archaiologikē Hetaireia 2003, 35–8.

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14: Mycenaean Greece, the Aegean, and Beyond

Christopher Mee

Introduction

In the Late Helladic period the Mycenaeans established an extraordinary network of overseas contacts, which stretched the length of the Mediterranean and beyond. A prime motive will have been the acquisition of crucial raw materials that Greece lacked, but it is clear that there were other contributory factors, especially at the elite and palatial levels of society. A number of key questions therefore must be addressed. Was there trade and, if so, in what, for whose benefit and by whom? Were political alliances negotiated with foreign states? Did the Mycenaeans conduct military campaigns or settle overseas? What, if any, influence did they have on other societies? This chapter first looks at the evidence provided by texts from the Aegean, the Near East, and Egypt for the organization of trade at this time, and then uses the evidence of shipwrecks in particular to consider what was traded. The regions that came into contact with the Mycenaeans – the Cyclades, the Dodecanese, Macedonia, Troy and the Black Sea, Anatolia, Cyprus, Syria–Palestine, Egypt, and Italy – are each treated separately, because the evidence cannot be satisfactorily interpreted unless it is put into context. Finally, the key questions are reviewed in the Conclusions.

Texts

Trade, or better exchange, because this was not necessarily commercial activity, operated at a number of different levels in Mycenaean Greece. The Linear B texts indicate that the palaces controlled a system of mobilization (Ch. 12, pp. 291–2) within each state, although the

archaeological record makes it clear that commodities could move around without being officially recorded (Ch. 12, pp. 307–8). Contact between states must have been frequent but is seldom mentioned, except for a tablet from Mycenae that notes a consignment of cloth sent to Thebes (Ch. 12, p. 307).[1] There is even less textual evidence for overseas trade, leading to speculation that the palaces relied on independent merchants. The tablets do record imported raw materials and luxury items, for example gold, ivory, and spices such as sesame and cumin. Cypriot (*ku-pi-ri-jo*, *kuprios*) is used as a noun and adjective, possibly to designate the destination or alternatively the source, the type, or the agents involved in the shipment of certain goods (Ch. 12, p. 298). Some of the textile workers at Pylos were apparently from Anatolia (Ch. 12, p. 306).[2] None of this evidence proves that Mycenaean palaces were directly involved in trade, although they did have ships. Tablets from Pylos record several hundred rowers, presumably military personnel. Moreover, an artificial harbor was constructed on the coast just below the palace.[3]

Egyptian and Near Eastern texts tell us much more about the way in which trade was conducted in the eastern Mediterranean at this time.[4] Often this took the form of gift exchanges between rulers, who typically addressed one another as "brother," but the scale of these transactions goes well beyond simple tokens of affection. A letter from the Egyptian pharaoh to the king of Babylon records a consignment that included objects of gold, silver, copper, and bronze, jewelry, mirrors, thrones, perfume, cloth, stone vessels, and ebony boxes, weighed and numbered so that their commercial value could be calculated. The gold weighed 1,200 *minas* (1 mina = approximately 500 grams), the silver 292 minas, and the bronze 860 minas, and there were precisely 1,092 pieces of cloth.[5] The expectation was that the sender would receive similarly lavish gifts in return; failure to reciprocate resulted in a letter of complaint. Ashur-uballit, the king of Assyria, made his displeasure clear on one occasion:

> Is such a present that of a Great King? Gold in your country is dirt, one simply gathers it up. Why are you so sparing of it? I am building a new palace. Send me as much gold as is needed for its adornment.[6]

Raw materials, such as copper, were specifically requested and shipped in bulk. Princesses, physicians, sculptors, even conjurors could find themselves being transferred from one royal court to another. That Mycenaean rulers took part in these high-level exchanges is clear from

a Hittite text that mentions a gift from the king of Ahhiyawa, which was probably a Mycenaean state (below, p. 374).[7] The role of merchants in eastern Mediterranean trade is complex. At Ugarit they were a powerful elite, supported by the state, who had ambassadorial duties as well.[8] There was some scope for entrepreneurial trade, and this expanded in the thirteenth century, when the political system began to break down. It is quite likely that merchants or the crews of the ships also conducted commercial transactions as a sideline.

Trade Goods

Many of the items listed in the texts would have left no archaeological trace.[9] For an indication of what was actually traded between the eastern Mediterranean and the Aegean, our best source of information is three shipwrecks (Ch. 9, p. 220). Two of these vessels sank off the southern coast of Turkey, at Uluburun and Cape Gelidonya, but were apparently headed west at the time. The third ship went down at Point Iria in the Gulf of Argos.

The Uluburun wreck is dated to the late 1300s BCE, late LH IIIA in Mycenaean terms (Ch. 1, p. 7).[10] Raw materials made up most of the cargo, in particular almost 500 copper ingots, which weighed around 10 tons. Lead isotope analysis (Ch. 1, p. 10) points to a Cypriot origin for most of this copper. The ship carried 1 ton of tin, which had presumably come from much further east, possibly Afghanistan (Chs. 3, p. 61; 9, pp. 215–16). Stored in Canaanite amphorae was 1 ton of terebinth resin: this may have been burned as incense or used in perfume. In addition, 175 glass ingots, colored blue, turquoise, and lavender, blackwood and cedar logs, elephant and hippopotamus tusks, tortoise carapaces, and ostrich eggshells were recovered from the wreck. Manufactured items included jars full of Cypriot pottery, copper and bronze vessels, gold and silver jewelry (some of it scrap), faience cups, and an ivory trumpet. Also on board were weapons, tools, stone weights, almonds, olives, fruits, and spices. It seems likely that this valuable cargo was a royal shipment, but from where and to whom? The mixture of finds – Egyptian, Nubian, Assyrian, Babylonian, Cypriot, Mycenaean, Italian, Balkan, and Baltic – makes it difficult to identify the home port of the ship. However, the general consensus is that it was a Near Eastern vessel and may have sailed west from Ugarit via Cyprus. Some of the personal items, cups and sealstones, suggest that two Mycenaeans were on board, possibly merchants or palace officials.[11] If so, one destination of this shipment was probably mainland Greece.

The Gelidonya ship was wrecked a century or so later.[12] It also carried copper, although only 1 ton, and tin ingots, as well as bronze tools and scrap. Personal possessions included stone weights, tools, mortars, scarabs, a cylinder seal, and Mycenaean pottery. This ship may have been a private vessel, which sailed from port to port. The crew would have traded as the opportunity arose, and they evidently made or repaired bronze tools and weapons. The Point Iria ship sank around the same time, in the late thirteenth century.[13] The cargo consisted of pottery: Cypriot **pithoi** (large clay storage jars) and jugs, Minoan stirrup jars, and Mycenaean bowls, jars, and cooking pots. No doubt there were perishable items that the current swept away, because the wreck was only 10 m from the shore. One interpretation of the finds is that the vessel had sailed from Cyprus via Crete and was then caught in a storm off the coast of the Argolid. Alternatively, this may have been a local ship, used for quite short journeys.

What did the Mycenaeans export? Copper and silver were mined in Attica, but Greece lacks natural resources, and so it is assumed that manufactured items rather than raw materials were shipped out. The Linear B texts indicate that the palaces supervised a textile industry, which evidently produced more than was needed locally (Ch. 12, pp. 305–6). It is possible that some cloth was made specifically for export (*xenwia*; Ch. 12, pp. 298, 306). There was also a perfumed oil industry and this is significant because most of the Mycenaean pottery found overseas consists of closed vessels, such as piriform jars, alabastra, stirrup jars (Pls. 12.4, 15.4), and flasks, in which oils and unguents were transported (Ch. 12, p. 304).[14]

Because it is both durable and distinctive, Mycenaean pottery has a tendency to attract attention and consequently dominate any discussion of trade.[15] This may be inevitable but does not mean that such vessels were held in high esteem in the past, though their contents presumably were. Nor can we assume that Mycenaeans were responsible for the movement of the pottery, so it is not proof of direct contact. Obviously those who used the pottery need not have been Mycenaean either.

The Aegean

The Cyclades[16]

Phylakopi on Melos (Ch. 8, p. 197) was partially destroyed by fire at a time when LM IB pottery was still in use. Subsequently in LH IIIA1 a **megaron** (an axial building unit consisting of a main room with an anteroom and/or porch) was constructed on the site of the LC I

mansion and the pottery then became predominantly Mycenaean. One explanation for this culture shift is that the Mycenaeans had seized Melos and went on to take control of most of the Cyclades. Alternatively, it has been argued that the Mycenaeans did not rule the islands directly, but had close economic ties that restricted their political independence. Equally, this change could be a purely social phenomenon, a cultural realignment consciously and voluntarily undertaken by the islanders.[17]

The megaron at Phylakopi (Fig. 14.1) certainly recalls the central unit of Mycenaean palaces (Ch. 11, p. 262; Fig. 11.1), and was most likely occupied by those who ruled the town. Yet there is otherwise no obvious evidence of Mycenaean influence on the domestic architecture of the Cyclades in this period – the traditional house types continued to be built. The shrine complex at Phylakopi is in some respects reminiscent of the Cult Center at Mycenae (Chs. 11, p. 264; 13, p. 352; Fig. 13.7), and the most impressive of the terracotta figurines, known as the Lady of Phylakopi, may have been imported. The male figurines have no counterparts on the mainland, however, and there is a Near Eastern connection in the form of bronze Reshef figurines, which have been found on Delos as well as at Phylakopi.

The Late Cycladic dead have proved remarkably elusive. Relatively few tombs have been excavated and it is difficult to believe that this dearth is simply fortuitous, given the number of Early Cycladic cemeteries (Ch. 3, pp. 56–9). Islanders were aware of mainland practices, because **tholos** tombs (round domed tombs; Fig. 13.2) were constructed at Angelika on Mykonos, at Ayia Thekla on Tenos, and possibly at Chosti on Naxos, as well as chamber tombs at Langada on Melos and at Aplomata and Kamini on Naxos. But the dead do not seem to have been afforded as prominent a role in the islands as on the Mycenaean mainland.

The impact of the Mycenaeans on the Cyclades can be seen most clearly in the replacement of local pottery styles, which had survived the Cretan cultural offensive but now succumbed. Although at some sites, such as Ayia Irini on Keos, there is continuity in the coarse wares, the painted pottery is Mycenaean, either imports or local imitations.

Clearly there must have been close links between Mycenaean Greece and the Cyclades in the LH IIIA and LH IIIB1 periods, particularly so in the case of Melos and Naxos, although this is not true of every island. Some communities had more opportunity or a greater need to take on a Mycenaean cultural identity. It is quite possible that Phylakopi did come under Mycenaean political control, but nowhere else does evidence necessarily indicate direct rule. The potential of the

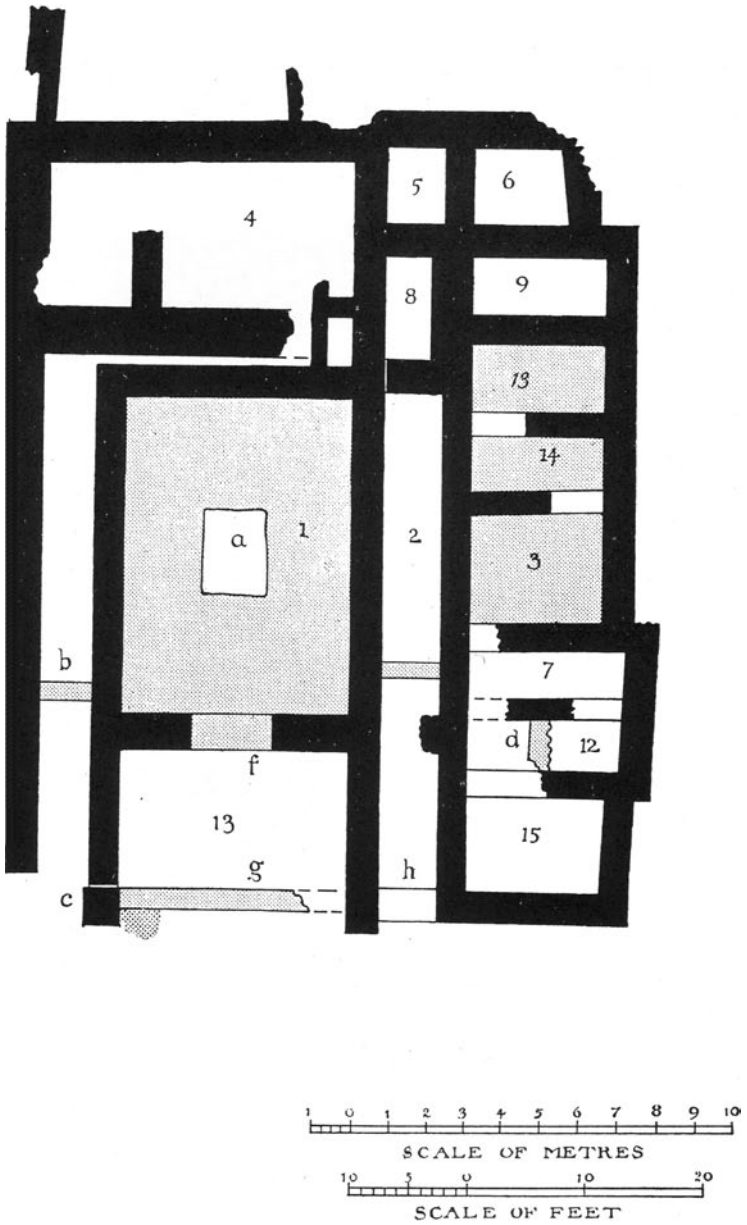

figure 14.1. The megaron at Phylakopi, Melos. After T. D. Atkinson, R. C. Bosanquet, C. C. Edgar, A. J. Evans, D. G. Hogarth, D. MacKenzie, C. Smith, and F. B. Welch, *Excavations at Phylakopi in Melos*. London: Macmillan and Co. 1904, 56.

islands to facilitate trade will have been one of their principal attractions for mainland states. This role may have led to settlement on a limited scale, but systematic colonization is most unlikely.

In LH IIIB2 less Mycenaean pottery was imported and apparently trade contacts had been disrupted. At the same time more defensible sites were occupied, notably Ayios Andreas on Siphnos and Koukounaries on Paros, whereas Phylakopi was fortified. There must have been some threat, although it is not clear from where. Mycenaean aggression cannot be ruled out, possibly prompted by events on the mainland (Ch. 15, pp. 387–92).

The Dodecanese[18]

In the Dodecanese, the cultural transformation is just as marked, yet differs in many respects. On Rhodes, the largest of the islands, the first chamber tombs in the cemetery at Ialysos, just inland from the settlement at Trianda, were in use in LH IIB. Four tombs date from this period; by LH IIIA1 the number had increased to twenty-four. Chamber tombs have been noted at several other sites on the island, and there was also a cemetery at Eleona-Langada on Kos. In LH IIIA2 Mycenaean activity intensifies. The number of tombs at Ialysos doubles and there is pottery of this period from twenty-five sites across Rhodes, again mainly cemeteries. Eleona–Langada also expands, and chamber tombs have been excavated on Astypalaia and Karpathos as well. Settlements have been identified on a number of the other islands – Kalymnos, Leros, Nisyros, Patmos, and Syme. At Myli on Samos there is a LH IIIA chamber tomb.

Cemeteries dominate the archaeological landscape of the Dodecanese. The one settlement that has been carefully investigated is Trianda. Tephra from the Thera eruption buried the town, but it was partially reoccupied in LM IB–II (Ch. 8, p. 198). The settlement was eventually abandoned in LH IIIA2, possibly after disastrous floods. It is not clear where the inhabitants of Trianda went, although the cemetery at Ialysos did continue in use. Nor do we know how Mycenaean Trianda had become in LH IIIA. We are equally in the dark about another excavated settlement, the Seraglio in Kos town, whose inhabitants were presumably buried in the Eleona–Langada cemetery.

To have to rely on the evidence from tombs presents obvious difficulties. The expansion in the size of a cemetery could simply reflect the fact that more members of the community chose or were permitted to be buried there, and does not necessarily imply an increase in the

size of the population. Nor does it follow that new settlers established the cemeteries on Rhodes – the chamber tombs may have been used by indigenous people. Yet the dead were treated exactly like mainland Mycenaeans. The graves were canonical rock-cut chamber tombs (Fig. 13.1) with a **dromos** (entrance passage) and **stomion** (doorway) that had usually been blocked. **Inhumation** (burial) was the custom, although a few cremations have been noted. Typical offerings were provided, except for terracotta figurines. The pottery is Mycenaean, as well as the weapons and jewelry. It does seem probable that Mycenaean settlers were buried in some of these tombs.

Given the location of the key sites, trade was surely a major attraction for the Mycenaeans. Clay analysis has demonstrated that most of the LH IIIA pottery at Ialysos and Pylona was imported from the Argolid. This includes some of the Rhodo-Mycenaean specialties, such as piriform jars (Pl. 14.1), which must have been produced for eastern Aegean customers. At the same time, quite different types of pottery were being made in the Argolid for export to Cyprus, presumably via Rhodes. The trade in Mycenaean pottery was clearly a sophisticated, market-oriented operation.

A warrior ethos is implicit in the weapons buried in many of the LH IIIA tombs, and could be an indication that the Mycenaeans took control forcibly. However, there is no evidence from Trianda to support this reconstruction of events, nor does the gradual increase in the number of tombs at Ialysos suggest a sudden influx of Mycenaeans.

Fewer tombs were in use at Ialysos in LH IIIB and at other sites in the north of Rhodes, although the south of the island does not experience a similar decline and Kos was also unaffected. The abandonment of Trianda may have been a factor, with a downturn in trade as a likely consequence. In LH IIIC the number of tombs at Ialysos doubles once more. Many were reused LH IIIA or LH IIIB tombs, which had been systematically cleaned out. Presumably new families had taken over these tombs. It is possible that they came from the Greek mainland or alternatively from other sites on Rhodes.

The Northern Aegean, Troy, and the Black Sea

Macedonia[19]

Evidence of contact between southern Greece and Macedonia can be traced back to the Middle Helladic period. There is Minyan pottery at

Ayios Mamas, Molyvopyrgos, and Torone in Chalkidike and a Macedonian version of matt-painted ware (Fig. 10.1; Pl. 10.1). Imported LH I and LH II sherds at Torone indicate that these contacts were maintained at a time when Mycenaean activity in the southern Aegean was still restricted. It is possible that metals, in particular silver and lead, were acquired through these sites. In addition, Torone may have been one of the ports on a coastal trade route that extended further east, because there is also Middle Helladic and Early Mycenaean pottery from Troy (below, p. 371).

In central Macedonia, Late Bronze Age settlements were often located on prominent mounds (tells or toumbas). Some have circuit walls that could have been defensive but also supported the steep sides of the tell. At Assiros a complex of storerooms was apparently used as a communal granary in the fourteenth and thirteenth centuries BCE. There were extensive storage facilities at Toumba Thessalonikes as well. It seems that certain sites must have functioned as the focal point for a network of local settlements. How these networks were structured, however, and whether their existence implies some form of central authority is less obvious.

A number of sites – Kastanas, Assiros, Toumba, Ayios Mamas, and Angista – have imported LH IIIA and LH IIIB pottery. In due course Mycenaean shapes were copied and this locally produced pottery was also exchanged. Nevertheless, the proportion of Mycenaean style pottery at Toumba, for instance, never rose above 5% or so. In comparison with the Cyclades or the Dodecanese, it is clear that Macedonia remained culturally independent. However, contact with Mycenaean Greece could have provided the impetus for some of the innovations seen in this period, such as the storerooms – not that the Macedonian settlement networks operated on the scale of or had the same administrative organization as a Mycenaean palace.

Demand for Mycenaean pottery continued in the twelfth and eleventh centuries, presumably because it was regarded as particularly appropriate or prestigious in certain social contexts. As most of the pottery was locally made, though, links with southern Greece may well have tailed off in LH IIIC.

The Northern Aegean[20]

On Thasos there is a cemetery of built graves at Kastri. Mycenaean pottery was imported in LH IIIB and then copied, particularly in LH IIIC. Lesbos had close cultural ties with Anatolia. Some LH III

sherds have been found at Antissa, Parama, and Thermi, and Mycenaean shapes were also reproduced in the local gray and red fabrics. Large cist graves at Makara on Lesbos recall similar graves at Emporio on Chios, one of which contained LH IIIB pottery. In the settlement at Emporio the pottery is LH IIIC and linked stylistically with sites in the eastern Aegean/western Anatolia. Massive cist graves with built entrances have been excavated at Archontiki on the west coast of Psara. The associated pottery is predominantly Mycenaean, LH IIIA–C. This use of cist graves in the northern Aegean was evidently a local tradition and there is no reason to assume that the dead must have been Mycenaeans. Only in LH IIIC, at certain sites such as Emporio, does the presence of Mycenaean settlers seem likely (Ch. 15, p. 395).

Troy and the Black Sea

In the northern Aegean, Troy is exceptional as regards the quantity of Mycenaean-style pottery that has been found and the time span it covers.[21] In the Middle Bronze Age, some gray ware goblets may have been imported or at least indicate an awareness of Gray Minyan shapes (Fig. 9.1). There is also matt-painted pottery, which may have come from mainland Greece or the Cyclades (Pl. 9.1). Mycenaean sherds, dated LH IIA–B, first appear in Troy VI phases d–e. Clay analysis has shown that some of this pottery was imported, although apparently not from the Argolid, and was already being copied locally. The proportion of Mycenaean pottery steadily increases in phases VIf–h. However it should be stressed that the hundreds of sherds still account for only 1–2% of the pottery in these levels. Mycenaean shapes, such as cups, **kylikes** (stemmed drinking cups), piriform jars, and stirrup jars were now being produced in the local gray and tan fabrics.

How is the Mycenaean-style pottery from Troy to be interpreted? Frequent, if not necessarily intensive contact is a reasonable assumption, most probably with Mycenaean settlements in the eastern Aegean and western Anatolia, less certainly with mainland Greece. Surely the location of Troy on the Dardanelles prompted these contacts. Contrary winds and currents would often have made the straits impassable, especially in the summer. Ships that took shelter in Beşik Bay must have been a lucrative source of revenue for the Trojans. But Troy was clearly more than just a transit station. There is not much evidence that Mycenaeans regularly sailed as far as the Black Sea: two oxhide ingots, swords, and axes that could be Aegean, but no

pottery.[22] Of course, archaeologically invisible items would also have been traded, but it may well be that most Mycenaean ships were bound for Troy, not the Black Sea. The recent excavations have revealed that the sixth and seventh settlements covered 200,000 sq. m, ten times more than was once thought. Troy was clearly a major center, quite possibly a major commercial center, an entrepôt where trade networks intersected.

An earthquake apparently destroyed Troy VIh late in LH IIIA2. The rather ramshackle houses subsequently built on the citadel in phase VIIa have been seen as an indication of insecurity and/or impoverishment, although there was no reduction in the size of the lower town. Most of the Mycenaean pottery was locally made in a matt-painted version of tan ware.

Blegen believed that Troy VIIa was besieged and sacked.[23] If so, this episode may have been the inspiration for the Homeric epics. Were Mycenaeans involved? We do have evidence of a "special relationship" and it is not difficult to envisage various scenarios, with or without the involvement of a beautiful woman, that could have led to an attack on Troy. A coalition of Mycenaean states is more difficult to accept, because the latest pottery indicates a date for the destruction in LH IIIB/C, at a time when the troubled situation in mainland Greece would not have favored organized military ventures (Ch. 15, pp. 387–90). This does not rule out a more opportunistic, freelance operation, which may have provided a historical kernel around which the *Iliad* and the *Odyssey* were spun. After the destruction Troy was rebuilt at once and there is some Mycenaean style pottery from phase VIIb1, so contact with the southern Aegean must have continued in LH IIIC.

Anatolia[24]

A few LH IIA sherds have been found at Miletos and Klazomenae, and by LH IIIA1 Mycenaean pottery had also reached Iasos and Ephesos. The number of sites increases again in LH IIIA2, but the southwest coast was still the focus of activity and there were close links with the eastern Aegean islands.

At Müskebi a cemetery of approximately fifty chamber tombs has been excavated. The tombs have a dromos, stomion, and rock-cut chamber. The grave offerings – pottery, bronzes, and jewelry – seem typically Mycenaean, too, and inhumation was standard, although at least three individuals had been cremated, an Anatolian practice. The

pottery, ranging from LH IIIA to IIIC, includes some specifically Rhodian shapes but also imports from Miletos.

Further up the coast, LH IIIA–B pottery has been found at Iasos. Because later construction activity has disturbed the prehistoric levels, it is difficult to interpret the architectural layout of the settlement. Much of the Mycenaean pottery had evidently been made locally, as had five terracotta figurines. The presence of these figurines, though, implies some knowledge of Mycenaean religious beliefs.

Miletos was clearly a site of major importance. The Minoan connection has already been discussed (Chs. 8, p. 199; 9, p. 217). After destruction by fire, late in LM I, the settlement was rebuilt. The domestic architecture combines Anatolian and Mycenaean features, but a number of kilns have also been excavated, for which Aegean sites provide the best parallels. The pottery produced at Miletos was mainly Mycenaean – only 5% or so is classified as Anatolian. In LH IIIA2 the settlement was once again destroyed by a fire, which may have been started deliberately rather than by accident.[25] This would explain why a massive circuit wall was subsequently constructed. The casemate technique and evenly spaced bastions recall Hittite fortifications. In other respects a Mycenaean bias is still apparent in the form of LH IIIB–C pottery and terracotta figurines. At Değirmentepe, a short distance from the settlement, there is a chamber tomb cemetery. The dead were buried there with Mycenaean weapons, jewelry, and pottery.

It seems quite likely that there were Mycenaean settlers at Müskebi, Iasos, and Miletos, but this does not rule out the possibility that they had joined multiethnic communities. North of the Maeander/Büyük Menderes River, the cultural gumbo is even spicier. A disturbed tomb on the Byzantine citadel at Ephesos contained LH IIIA pottery with Minoan and Mycenaean decorative motifs. There is evidence of early cult activity in the sanctuary of Artemis at Ephesos, where Anatolian and Mycenaean terracotta figurines have recently been found. The cemetery at Panaztepe, just south of the Hermos/Gediz River, has a heterogeneous mixture of stone-built tombs with oval chambers and short dromoi, pithos graves set in stone circles, chamber tombs enclosed in stone platforms, and cist graves. There were contracted inhumations and cremations in jars. The grave offerings included Anatolian pottery, as well as imported and locally produced Mycenaean pottery, bronzes, sealstones, and jewelry. Here we see how communities could exploit and manipulate Mycenaean contacts and culture.

Inland from the west coast the situation is quite different, with occasional finds of Mycenaean pottery and metalwork reported from

a dozen or so sites scattered across central Anatolia. Given that even fewer imports from central Anatolia have surfaced in the Aegean, the evidence for trade between the Mycenaeans and the Hittites would appear to be minimal. However, it seems that they were well aware of each other. One of the states mentioned in texts from the Hittite capital at Boğazköy is Ahhiyawa. It is widely believed that this is the Hittite for Achaea and therefore, because Homer refers to the Greeks at Troy as Achaiwoi or Achaeans, Ahhiyawa should be Mycenaean.[26]

The earliest of these texts was written in the reign of Arnuwanda I and is dated ca. 1400 BCE. Madduwatta, a Hittite vassal, is attacked by Attarissiya, a man of Ahhiya but apparently not the ruler of Ahhiyawa. The Hittite king assists Madduwatta and sends a force against Attarissiya, who was equipped with chariots and must have been a powerful warlord. In the third year of the reign of King Mursili II, ca. 1320 BCE, the Hittites sacked the city of Millawanda, which had formed an alliance with Arzawa and Ahhiyawa. Subsequently Mursili attacked and captured Apasa, the capital of Arzawa. It has recently been confirmed that Apasa is Ephesos. This fact in turn supports the identification of Millawanda as Miletos, which was destroyed around this time, late in LH IIIA2 (above).

The king of Ahhiyawa had evidently retaken Millawanda by the time he received the so-called Tawagalawa Letter, which was written by the Hittite king Hattusili III in the mid-thirteenth century BCE. Despite the fact that Hattusili has marched on Millawanda in pursuit of Piyamaradu, a renegade Arzawan prince, his tone is conciliatory and he addresses the king of Ahhiyawa as "My Brother, the Great King, my equal." Relations soon soured, however. In the Sausgamuwa Treaty, King Tudhaliya IV tells the ruler of Amurru that he should "let no ship of Ahhiyawa go to (the Assyrians)," with whom the Hittites were at war. Because the Hittites used economic sanctions against their enemies, it is possible that this was a trade embargo.

The texts tell us that Ahhiyawa was a state that controlled some territory in Anatolia and also islands. Consequently the settlements in the eastern Aegean and western Anatolia could have formed the nucleus of the kingdom. Yet it is difficult to believe that the ruler of such a state would qualify as a "Great King," which implies that one of the mainland Greek palaces, such as Mycenae or Thebes, may have been the capital of Ahhiyawa. That the Mycenaeans and the Hittites came into contact does seem a reasonable assumption, but there is no indication that they enjoyed a particularly close or fruitful relationship.

Cyprus[27]

Copper ores were being mined in the northern Troodos by the start of the Middle Cypriot period, ca. 2000 BCE. Soon there was a demand for Cypriot copper in Syria–Palestine. Initially it was sites in the north of the island that benefited most from the development of this industry, but in due course control passed to centers in the south and east, such as Enkomi, Kition, Hala Sultan Tekke, Kalavasos–Ayios Dimitrios, and Maroni–Vournes. The copper was evidently smelted, or at least refined, and not just shipped from these sites. It is plausible that some of the copper would have been exported to the Aegean, and this was evidently the case. Lead isotope analyses of copper ingots and artifacts found in the Aegean indicate that approximately 20% have a composition that matches the Cypriot ores. However, it was not until LH III that the supply of copper from Cyprus reached this level.

The quantity of Mycenaean pottery exported to Cyprus increased dramatically at this time. Thousands of pieces of LH IIIA–B1 pottery have been reported from sites right across the island, with high concentrations in the centers on the south and east coasts. Nevertheless, on settlement sites, it was still not particularly common. Of the 200,000 sherds recorded at Hala Sultan Teke, 3,500 or 1.7% have been classified as Mycenaean and a further 472 or 0.2% as Minoan. The figure for Mycenaean pottery at Kalavasos–Ayios Dimitrios is again 1–2%, although in ceremonial contexts, such as the sanctuary at Ayia Irini, and especially in tombs, the proportion is often much higher than this.

The dead were given unguent vessels – alabastra, stirrup jars, and flasks – that presumably contained perfumed oil. The oil may have been used in the funeral ceremony or possibly had more symbolic connotations. In richer tombs, the range of shapes also includes cups, bowls, chalices, and pictorial-style kraters (Pls. 15.5, 15.6). Some of these open vessel types are quite rare in mainland Greece, and it was once thought that they must have been made on Cyprus. However, clay analysis has demonstrated that most were imported from the Argolid, and were evidently produced specifically for the Cypriot market (Ch. 11, pp. 273–4). The provision of sets of drinking vessels in these tombs implies that ritualized or formal consumption of wine was considered a high-status activity. The imagery on the pictorial kraters is also suitably aristocratic. In life there may well have been a preference for metal vessels, but pottery was clearly an acceptable substitute for the dead.

How did the Mycenaean pottery reach Cyprus? It was certainly not brought by settlers, but can a case be made for Mycenaean or

alternatively Cypriot merchants? This question is obviously difficult to answer, although we do have some indications. At Tiryns, marks were incised on some LH IIIB piriform jars and stirrup jars after they had been fired.[28] This practice is not common in the Aegean, but pottery on Cyprus is also marked with similar signs. The implication is that Cypriots had processed the pottery at Tiryns. They were active in the eastern Mediterranean as well. Alasiya, which is mentioned in Egyptian, Syrian, Mesopotamian, and Hittite texts, should be Cyprus. If so, there can be no doubt that the island was closely involved in overseas trade. Any independent Mycenaean merchants would have faced competition.

Although it has been argued that Cyprus was a unified state ruled by Enkomi, developments in the thirteenth century point to a network of independent **polities** (politically organized societies).[29] Like Enkomi, Kition was laid out on a grid plan and fortified. Kalavasos–Ayios Dimitrios was another planned city and had a possible administrative center constructed in **ashlar** masonry (smoothed rectangular cut blocks), as did Maroni–Vournes. Industrial activity intensified and agricultural resources were more carefully controlled in the thirteenth century, and locally made Mycenaean pottery also appeared for the first time. The range of shapes is initially quite limited, mainly shallow bowls and kraters, often with pictorial style decoration. Although it is possible that the supply of pottery from mainland Greece had been disrupted, this move to local production should be seen in the context of increased industrial specialization on Cyprus.

Around 1200 BCE some settlements, such as Kalavasos–Ayios Dimitrios and Maroni–Vournes, were abandoned. Others, Enkomi and Kition for example, were destroyed and then rebuilt. Sites that could easily be defended, Pyla–Kokkinokremos and Maa–Palaiokastro, were occupied. In the twelfth century there is further evidence of disturbance and disruption. These events may be linked to the activities of the Sea Peoples (Ch. 15, pp. 395–6). The question here is whether they also mark the arrival on Cyprus of Mycenaean Greeks (Ch. 1, p. 14). This period was once regarded as a cultural watershed, but it is now clear that many innovations, such as the use of ashlar masonry, go back to the thirteenth century. There is much more Mycenaean-style pottery, although this is also a gradual development rather than a sudden break with tradition. If settlers did come from the Aegean, they probably traveled east in small groups rather than en masse.

Despite these upheavals, Cyprus prospered in the twelfth century. Links with the Near East and Egypt were maintained and Cypriot commercial interests extended as far west as Sardinia. The eleventh

century sees more settlements abandoned in favor of sites that would ultimately become the Iron Age city kingdoms. New chamber tomb cemeteries were established and a further influx of Mycenaean settlers is suspected. Greek speakers were certainly resident on Cyprus, because a bronze spit from a tomb at Palaipaphos–Skales is inscribed in the Cypriot syllabic script with the Greek name Opheltas.

Syria–Palestine[30]

Politically Syria–Palestine consisted of numerous kingdoms and city-states that found themselves squeezed between two superpowers. By the fifteenth century Egypt was in control of Palestine and the coast as far north as Ugarit, but northern Syria was seized by the Hittites in the fourteenth century. The Egyptians made several unsuccessful attempts to regain this territory, which culminated in their defeat at the battle of Qadesh ca. 1275 BCE. Trade flourished despite the often turbulent political situation. The archives from Ugarit reveal the range of items – grain, wine, oil, honey, salt, resin, timber, ivory, linen, and textiles – that were exported to Egypt, Mesopotamia, Cyprus, Anatolia, and the Aegean. Much of this trade was in the hands of freelance merchants who sometimes operated in an official capacity on behalf of the state. Ugarit was clearly a major commercial entrepôt, and also Tell Abu Hawam, further down the coast.

Aegean pottery is reported from around ninety sites in this region and is predominantly Mycenaean, LH IIIA–B. The sites are concentrated on or relatively close to the coast, with few further inland. The amount of pottery varies from minimal to respectable in the case of Ugarit, Tell Abu Hawam, and Lachish, where hundreds of pieces have been found. It has turned up in settlements, shrines, and tombs. Closed shapes were most common, in particular piriform jars, alabastra, stirrup jars, and flasks, doubtless imported for their contents. Open shapes include pictorial kraters, cups, kylikes, and bowls. The LH IIIA–B pottery on Cyprus is remarkably similar and there is in fact much more Cypriot pottery from most of these Syro–Palestinian sites. Were cargoes from the Aegean offloaded in Cypriot ports, divided up and then shipped on from there? If so, any Mycenaean merchants who had sailed as far as Cyprus would not necessarily have traveled further east. Although it is improbable that they never set foot in Ugarit or Tell Abu Hawam, the Mycenaeans may have had a rather peripheral role in these east Mediterranean trade networks.

Clay analysis has shown that much of the LH IIIA–B pottery was imported from the Argolid. By the late thirteenth century and more particularly in the twelfth century, other production centers had taken over, and locally made Mycenaean style pottery appears. This was a grim period for many Syro–Palestinian cities, which were attacked and destroyed ca. 1200 BCE, presumably by the Sea Peoples. Some sites were reoccupied but others, such as Ugarit, did not recover, and this will certainly have had an impact on trade. LH IIIC pottery is found especially at the Philistine sites of Ashdod and Tel Miqne–Ekron, where new cultural practices have been interpreted as evidence of settlers from outside the region.[31] Although most of the pottery is local, close stylistic links can be seen with Cyprus and also Cilicia. If this pottery is any indication of their origin, the Philistines may not have come far.

Egypt[32]

The Amarna Letters, written in the fourteenth century in the reigns of Amenhotep III and Akhenaten, reveal the scale of the exchanges that Egyptian pharaohs conducted with their counterparts in the Near East. They also underline the extent to which these pharaohs controlled trade. Independent merchants apparently had a much more restricted role in the Egyptian system, and consequently there would have been less scope for freelance trade.

As none of the Amarna Letters is addressed to an Aegean ruler, it has been argued that trade between Mycenaean Greece and Egypt must have been indirect, via Near Eastern intermediaries. However, a case can be made for high-level contact.[33] Six Egyptian faience plaques from Mycenae, as well two scarabs, are inscribed with the cartouche of Amenhotep III or his wife queen Tiyi. Although most of these objects were in LH IIIB contexts, they may have been imported when Amenhotep was on the throne, ca. 1391–1353 BCE or LH IIIA1–2 in Aegean terms, and then redeposited. If they reached Mycenae directly from Egypt, it is possible that this was a royal gift and could indicate an official visit. Furthermore, Mycenae is one of the places named in the "Aegean list," inscribed on a statue base in the mortuary temple of Amenhotep at Kom el-Hetan. The list also includes Knossos, Phaistos, Amnisos, Kydonia, Kythera, Messenia, Nauplion, and Troy. One interpretation of this inscription is that it records the itinerary of an Egyptian embassy, sent by Amenhotep, at a time when Crete was still a political force and Mycenaean Greece had emerged as a rival power.

Up to this point Mycenaean trade with Egypt had been minimal – a few pieces of imported pottery could be LM IB or LH IIA. By contrast, LH IIIA2–B pottery, mainly closed shapes such as piriform jars, alabastra, stirrup jars, and flasks, is known from around thirty sites on the Mediterranean coast and the Nile, as far south as Nubia. It is found in settlements, in official and domestic contexts, and in temples and tombs. However, most of the pottery, 1,500–1,600 sherds, comes from just one site, Amarna.[34] This was the city built by Amenhotep's son, the pharaoh Akhenaten, ca. 1353–1337 BCE, as the capital of Egypt and abandoned soon after his death. In a chapel at Amarna, apparently dedicated to the cult of Akhenaten or his father, fragments of a painted papyrus with a battle scene were discovered (Pl. 14.2)[35]. In one section an Egyptian is surrounded by Libyan archers, who are about to cut his throat. A group of warriors on another set of fragments may be coming to his assistance. They wear yellow helmets divided into panels and it is thought that these could be boar's tusk helmets, a distinctive Mycenaean type of armor. If so, the warriors should be Mycenaeans, possibly mercenaries who fought in the Egyptian army.

Less LH IIIB pottery has been reported, but this may reflect the fact that relatively few Nineteenth Dynasty settlement sites have been investigated. One exception is the fortress built early in the reign of the pharaoh Ramses II (1279–1213 BCE) at Zawiyet Umm el-Rakham in western Egypt to counter the threat posed by the Libyans. Like nearby Marsa Matruh, it would have been an obvious port of call for ships that had come from Crete or were about to sail across the Libyan Sea; hence the Mycenaean, Cypriot, and Near Eastern pottery in the storerooms of the fortress.

Mycenaean trade did decline in the twelfth century and must have been indirect, because there is no LH IIIC pottery in Egypt, although some imported Egyptian items do turn up in contexts of this period in the Aegean, especially in the cemetery at Perati and also on Rhodes (Chs. 11, p. 275; 15, p. 399).

Italy[36]

Reservations have been expressed about the Middle Helladic and Middle Cycladic pottery reported from sites in Italy. Nevertheless, the Mycenaeans certainly ventured west in LH I–II, at a time when they still had a relatively low profile in the Aegean. Early Mycenaean pottery has been found at coastal sites in Apulia, Calabria, and Sicily but

is concentrated in the Aeolian Islands – Lipari, Filicudi, Panarea, and Salina – just north of the Straits of Messina and the island of Vivara in the Bay of Naples. Clay analysis of the pottery from Vivara indicates an origin in the southern Peloponnese or Kythera. The attraction of these islands is not immediately apparent. Obsidian from Lipari was widely used in the central Mediterranean, although not in the Aegean, where Melos and Yiali were the principal sources. In fact, no imports from Italy can be identified in LH I–II contexts. Quite possibly the Mycenaeans were interested in raw materials and in particular metals. If so, the islands could simply have been convenient ports for ships on their way up the west coast of Italy. Alternatively, they may have been the point at which the Mycenaeans could gain access to local exchange networks and thus whatever it was they wanted.

More sites in Italy have LH IIIA pottery. Lipari is still prominent, with southern and eastern Sicily better represented than before, mainly by finds from cemeteries, especially the tombs at Thapsos. In Apulia there is a cluster of sites around the Gulf of Taranto. The fine harbor at Scoglio del Tonno must have been visited regularly, given the number of Mycenaean sherds there.

By LH IIIB, Sicily and the Aeolian Islands had become marginalized. Southern Italy and Sardinia were now the main focus of activity. At Scoglio del Tonno, Broglio di Trebisacce in northern Calabria, and Antigori on Sardinia, clay analysis has confirmed that pottery was being imported from the Peloponnese and also from Crete. Chania and Kommos received some Italian pottery in return. However, most of the Aegean-style pottery in Italy, as much as 90% at Broglio di Trebisacce, was now made locally. The fact that this required more sophisticated production techniques, in terms of the preparation of the clay, the use of a fast wheel, and high-temperature kilns, could point to the presence of itinerant Mycenaean potters in Italy. They may also have been responsible for *ceramica grigia,* the gray wheelmade ware that first appears at around this time, and *dolii*, large storage vessels fired at a high temperature. At Broglio di Trebisacce some of the *dolii* had evidently contained oil, possibly olive oil, and a connection with Aegean agricultural practices has been suggested. However, apart from pottery and occasional exotica, such as the ivory head of a warrior in a boar's tusk helmet from Sardinia, Mycenaean influence is quite limited.

There was also a link with Cyprus in the form of pottery, which includes a pithos from Antigori, and metalwork, in particular bronze tripod stands. Furthermore, lead isotope analysis indicates that the composition of oxhide ingots from sites in Sardinia matches Cypriot ores.

Importing metals seems decidedly perverse, because one of the attractions of Sardinia was presumably the copper resources of the island, which were being exploited at this time. We should not expect, however, that our notions of rational economic behavior necessarily operated in the past.

Local production of Mycenaean pottery continued in LH IIIC and there must still have been some contact with the Aegean. Sites in the center and north of Italy now appear on the distribution map and underline the extent of the exchange networks that served the central Mediterranean. Finally, and even further west, two LH IIIA–B sherds have been found at Llanete de los Moros in southern Spain.

Conclusions

It seems that the Mycenaeans were not actively involved in Aegean trade in LH I–II; any contacts with eastern Mediterranean states at this time must have been indirect, no doubt via Crete (Chs. 9, p. 217; 10, pp. 251–2). Yet there is evidence that they traded with sites in Macedonia and possibly Troy. They also crossed the Adriatic and established links with communities in Italy. The acquisition of metals may have been the motivation for these ventures, but it is curious that the Mycenaeans did not seek out more convenient trade partners as well. Were they kept out of the southern Aegean by the Minoans? It is not clear why such an embargo would have been imposed and difficult to envisage how it was enforced. Nevertheless, the Mycenaeans did seize their opportunity once Crete was weakened politically by the LM IB destructions.

In LH III the palaces unquestionably benefited most from and were most dependent on overseas trade. They supported industries that manufactured items for export, in particular perfumed oil and textiles. If the cargo on the Uluburun wreck was a royal shipment headed for Greece, the recipients would clearly have been in a position to control the movement of key raw materials, and texts from Pylos do indicate that the palace carefully monitored the bronze supply in LH IIIB (Ch. 12, pp. 304–5). Given their vested interest in trade, Mycenaean states would presumably have tried to impose some restrictions or conditions on the merchants they employed. However, there is no mention of an official merchant class in the texts. This could be an indication that most of the ships which sailed between the eastern Mediterranean and the Aegean came from Cyprus or the Near East and were not Mycenaean, as was once supposed. Cypriots marked pottery for export

at Tiryns and a merchant from Ugarit visited Crete. Yet there is also the Hittite treaty that places an embargo on ships from Ahhiyawa – that is, Mycenaean vessels. As well as directional trade, in which ships went from A to B, certain sites had an intermediary role as *emporia*, the points at which networks intersected. In these ports there would have been more scope for private enterprise by state-sponsored and independent merchants.

Of course trade was not the only form of contact. A case has been made for diplomatic links with the Hittites and the Egyptians. Gifts and favors were no doubt exchanged, but the Mycenaeans did not necessarily come in peace. There has been a tendency to play down the role of warfare, and at present conquest is not readily cited as an explanation for Mycenaean cultural influence. Nevertheless, we should not overlook their capacity to provide military support for overseas ventures. It is possible, for instance, that Mycenaeans forcibly seized control of Phylakopi on Melos. Less obvious is settlement on a scale that could be termed colonization. A Mycenaean presence at some sites in the central and eastern Aegean seems likely, but there is also evidence of acculturation. Few Mycenaeans made a permanent move further afield. Greek speakers eventually reached Cyprus, although not until the twelfth or eleventh century BCE, and craftsmen may have settled in Italy. Nevertheless the Mycenaeans did make an impact on those with whom they came into contact. Their influence is most obvious in the Aegean, but more subtle repercussions have been noted in Macedonia and Italy, where the appearance of hierarchical social systems could be linked to the competitive stimulus that the Mycenaeans provided.

In LH IIIB and more particularly LH IIIC, Mycenaean-style pottery was locally produced in Macedonia, Cyprus, Syria–Palestine, and Italy. It could be argued that this was in response to local demand, yet there must be a suspicion that supplies had been disrupted, even before the Mycenaean palaces were destroyed (Ch. 15, pp. 387–390). In the Near East the collapse of state-controlled trade networks is seen as a cause rather than an effect of the breakdown of the political system. Could the same have been true of Mycenaean Greece?

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15: Decline, Destruction, Aftermath

Sigrid Deger-Jalkotzy

Instability and Decline

At the end of LH IIIB2 – conventionally dated to ca. 1190 BCE – the Mycenaean palatial period came to a dramatic end. The palaces were destroyed and the palace system collapsed, never to be rebuilt. The causes of the catastrophes have long been the subject of controversial scholarly discourse, and consensus is not in the offing. One thing, however, has become increasingly clear: the breakdown of the palace system was the result of a process that had started considerably earlier. It is generally assumed that the decline of the Mycenaean states was triggered by a first series of destructions at the end of LH IIIB1.[1] At Mycenae several palace-related buildings outside of the citadel were destroyed and abandoned. At Tiryns the structures on the knoll below the palace (the Lower Citadel) were destroyed, and the palace of Thebes was also damaged. Nor were nonpalatial communities spared. Earthquakes have been blamed for the destructions at Mycenae and Tiryns.[2] At other sites causes cannot be defined with certainty.

Whatever caused these earlier catastrophes, they seem to have brought to an end the heyday of the Mycenaean palace civilization. The archaeological record of the last decades of the thirteenth century BCE (LH IIIB2) reflects instability and decline. Mycenae and Tiryns were damaged by further destruction, and the great citadel of Gla in Boeotia was burnt down and deserted, whereas other settlements were gradually abandoned.[3] The Aegean islands also seem to have undergone a period of insecurity and change. The settlement of Grotta on Naxos was abandoned, a defensive settlement was built at Ayios Andreas on Siphnos, and fortifications at Phylakopi on Melos were strengthened

(Ch. 14, pp. 365–8).[4] The population of northern Rhodes seems to have been drastically reduced, to judge by the decrease in burials during LH IIIB (Ch. 14, pp. 368–9). In Crete several sites were destroyed, others abandoned, and later LM IIIB was a period of disturbance and decline (Ch. 12, pp. 316–18).[5]

Presumably in response to these troubled conditions, the Mycenaean palaces strengthened their fortification systems (Ch. 11, p. 265; Fig. 11.1).[6] In LH IIIB2 the circuit wall of Mycenae was extended considerably and the Lion Gate was built. At Tiryns the Upper Citadel received the strong fortifications still visible today, and the Lower Citadel was enclosed with a Cyclopean wall. The extensive fortification walls of Midea and the enceinte around the Athenian acropolis were also built at this time. Moreover, impressive technical efforts were made to ensure the water supply of the citadels. At Mycenae, an oblique passage leading down to an underground reservoir outside of the citadel was sheltered by the northeast extension of the citadel wall. Two constructions of the same kind were built in LH IIIB2 in the Lower Citadel at Tiryns. At Athens in LH IIIB2 a sophisticated stairway system was built down a rock cleft leading to an underground spring. Workshops, particularly for luxury goods, storage areas, and administrative buildings, were transferred to areas behind the fortification walls. Inside the southwest extension of the circuit wall at Mycenae, workshops and administrative activities were included in the Cult Center.[7] The east wing of the palace was allocated to workshops (the Artisans' Quarters) and to storage areas, supervised and administered from the House of Columns. In contrast to an earlier view, the Lower Citadel of Tiryns was not designed to offer refuge to the general population in times of threat. The architectural layout of the area consisted of palace-associated buildings serving the purposes of administration, production, and cult. At Midea, workshops and storage areas were built against the inner face of the fortification wall.[8] At Pylos, where no fortifications of this period have so far been ascertained, architectural alterations were made in order to integrate workshops and storerooms into the Main Building and to restrict access to that area.[9]

Some have interpreted the undeniable grandeur of LH IIIB2 fortification walls and gates as an architectural display of the might and splendor of Mycenaean kings.[10] However, the efforts made to ensure the water supply and to restrict access to the economic quarters of the palaces, viewed in the context of destructions and settlement discontinuity after the end of LH IIIB1, rather raise the suspicion that the extension of fortifications in LH IIIB2 served the purposes of defense

and protection, possibly as a response to the unstable conditions of the time.[11] The threat that provoked the palace rulers to this effort is not known, but fortifications are usually built against human attack. Metal hoards deposited at the close of LH IIIB2 or soon after point in the same direction.[12] A Cyclopean wall near Isthmia facing north has been taken as evidence for a supraregional defense system for the Peloponnese. However, its construction date is uncertain, and a defensive purpose has been doubted.[13] More reliably, a coast-watching system is referred to by the *o-ka* texts of the Linear B documents from Pylos. Even if this was a routine measure, the coast guard was taken seriously enough to be set under the control of ten *e-qe-ta*, *hequetai*, "Followers," who were members of the highest social ranks at Pylos (Ch. 12, pp. 293–4). Some have adduced other Linear B texts too as evidence for a state of emergency, but have not met with general agreement.[14]

It is difficult to assess, in this connection, the first appearance in the Aegean of metal objects that had first been developed during the thirteenth century BCE in Italy, the northwestern Balkans, and central Europe.[15] Aegean examples are commonly found in postpalatial LH IIIC contexts, but at Mycenae the flange-hilted sword of the Naue II type, and at Tiryns the violin-bow-shaped **fibula** (a safety-pin-like dress fastener) already appeared in LH IIIB2 (below, p. 401). Moreover, a mould for an Italic winged axe was found at Mycenae. Objects of this kind certainly bear witness to the foreign contacts of the palaces. However, fibulae were not an element of the Mycenaean costume. Similar questions pertain to a handmade burnished class of pottery. Although it was locally made, its appearance is non-Mycenaean, and its origins have been sought outside of the Mycenaean world (below, p. 395). Handmade burnished pottery is mainly found in LH IIIC contexts. Yet at Mycenae, Tiryns, and Midea it too appeared before the end of LH IIIB2, as well as at Kommos and Chania in Crete.[16] Do these novel elements imply that the palaces employed foreigners (tradesmen? craftsmen? mercenaries?) at that time?

There is also evidence for economic problems. Too specialized and too centralizing, the Mycenaean palace economies apparently did not react adequately to disruptive factors.[17] These included the destructions at and after the end of LH IIIB1 and economic strains exercised by a massive increase in population or by the excessive building activities in LH IIIB2, which involved large labor forces paid in rations (Ch. 12, pp. 303–6). The agricultural basis of palace states was taken beyond its limits by overexploitation of arable lands and soils. Wheat and barley were of low quality and contaminated by weeds.[18] Compensation for a dearth

of foodstuffs by imports may have become difficult, judging from the evidence for the decline of overseas communications, especially with the eastern Mediterranean. Causes have been sought in piracy and raids, or changes in the patterns of long-distance trade routes.[19] As a result, Aegean ports of call were lost (above, pp. 387–8), the importation of raw materials demanded by palace workshops decreased, and prestige objects of eastern origin became rare.[20]

Although some objects of high artistic standard have been found in the ruins of the Mycenaean palaces, the representational arts gradually declined.[21] The remarkably uniform culture of the Mycenaean palace period disintegrated, indicating perhaps that the economic and cultural predominance of the palace states vis-à-vis the other regions had come to an end. Indeed, as soon as palatial control over the circulation of imported goods and prestige objects was jeopardized, the road became clear for independent regional economic activities.[22]

Some scholars hold that the palaces reacted to economic pressure and unstable conditions by tightening political control over their territories and by further centralizing the economy.[23] If so, a rigid centralization must have added to the vulnerability of the system and prepared the ground for a collapse as soon as the center was hit.

Destruction

According to the Linear B documents preserved by the fires that burned the palaces, all institutions functioned until the very end, administrations worked normally, and religious ceremonies and state banquets were celebrated by the palace élites. Whatever problems the palace administrators had to face and whatever threat they may have perceived, the final disaster seems to have struck all of a sudden at the end of LH IIIB2. This conclusion is borne out again by tablets recently found at Thebes: some of them were burned while the clay was still wet.[24] Many Mycenaean communities were hit by destruction and/or conflagrations. Settlements were abandoned, several without having been destroyed.[25] The main victims, however, were the palaces. Mycenae, Tiryns, and Midea in the Argolid were destroyed. So were Thebes and Orchomenos in Boeotia and Dimini in Thessaly. Pylos may have been destroyed a little later.[26] By the early twelfth century BCE, the palace system was wiped out.

Considerable scholarly effort has been devoted to explaining the disaster. Attacks by foreign enemies, social uprising, natural catastrophes, systems collapse, and changes in warfare have all been blamed.[27] The

most longstanding group of theories puts the blame on foreign attackers, either raiders or migrating peoples. As for the identity of the assailants, some have proposed intruders from the north, others the famous "Sea Peoples" of Egyptian and Near Eastern sources; the classical view that the Dorians were responsible is now refuted on archaeological grounds. However, the archaeological evidence for northern intruders, too, is not very strong, and the Sea Peoples theory is mainly based on archaeological and literary sources from Cyprus, the Near East, and Egypt. Intruder theories have other weaknesses, too, so that they have lost much of their earlier attractiveness.[28] A related hypothesis suggesting that the chariot forces of the eastern Mediterranean kingdoms were overthrown by the technically superior weaponry of "barbarian" foot soldiers has not found acceptance.[29]

Theories based on natural catastrophes or resource depletion by climatic shifts have many adherents.[30] Indeed, it cannot be excluded that local earthquakes, bad harvests caused by drought or floods, and excessive exploitation of natural resources may have enhanced the economic problems of the palace states.[31] However, evidence for epidemics and drastic climatic changes is still lacking. Widespread earthquake activity, on the other hand, has also been claimed, mainly by archaeologists. Moreover, a recent theory states that, because of the geophysical conditions of the region, the civilizations of the eastern Mediterranean "could have been and probably were" afflicted by an "earthquake storm" during the decades around 1200 BCE.[32] However, theories of this kind have so far not been supported for Greece by actual seismic evidence, and seismologists have remained skeptical.[33]

Theories based on conflict within the Mycenaean world hold that the palace system was overthrown by rebellions against poor palatial management of economic hardships,[34] or by warfare between hostile states. They fail, however, to explain why not only the palace states, but virtually all Mycenaean regions were hit by the disaster.

Much credibility is now attributed to systems-collapse theories, which ascribe the breakdown of the Mycenaean palaces to their own structural weaknesses and to social contradictions. Centralizing economies, artificial institutions, stifling bureaucracies, ponderous administrations, and excessive exploitation of resources eventually rendered the palace states unable to react to economic pressure and to critical situations.[35] Systems-collapse theories aptly explain why the palace system failed. Yet they too are unable to account for the widespread destruction all over Greece, including even non-palatial Mycenaean **polities** (politically organized societies).

In fact, none of the theories enumerated above can explain, by itself, the extinction of the Mycenaean palace civilization. On the evidence now available, a series of factors must have been involved. It appears that decline and internal crisis prepared the ground. However, for the violent finale, a precipitating event (or events) must have occurred.

Aftermath

There is no doubt that the collapse of the advanced civilization of the Mycenaean palaces was a fundamental turning point in Greek history. The impressive palatial structures were not rebuilt, and very little of the representational arts and crafts of the palaces seems to have survived. The complex forms of political, social, and economic organization fell into oblivion. Palaces, kings, and royal families became matter for Greek myths. The art of writing was lost for centuries. In short, Greek civilization was reduced to the level of a prehistoric society.[36]

However, the fall of the palace system did not portend the end of the Mycenaean Age. The twelfth and eleventh centuries until ca. 1070 BCE – in archaeological terms the period LH IIIC – should be viewed as the last stages of Mycenaean civilization rather than the first stretch of a "Dark Age." Over the past quarter of a century, a substantial increase in archaeological data from new excavations and intensified study of material from earlier excavations have greatly enhanced our insight into LH IIIC. In the first place, the carefully observed sequence of burials in the chamber tombs of the cemetery at Perati and the study of stratified settlement deposits at Mycenae, Tiryns, Lefkandi, and elsewhere have made it possible to follow up the development both of the material culture in general and of pottery styles in particular.[37] The postpalatial Mycenaean period therefore no longer appears as an undifferentiated stretch of time between the fall of the palaces and the rise of the Protogeometric style in Attica.

Chronology

The sequence of LH IIIC pottery shapes and styles has been divided into several chronological subphases and offers a new basis for establishing the relative chronology of the period (Fig. 1.1).[38] It has become obvious that the famous and still widely applied classification and chronology of LH IIIC pottery by Furumark needs revision.[39] At present, it is being replaced by a basic tripartite scheme of LH IIIC Early, Middle

(Developed and Advanced), and Late, though other authors would prefer to divide LH IIIC into four or even five phases.[40] These diverging views mainly arise from the marked regionalism of the pottery styles (below, pp. 400–401). It appears difficult to define a general chronological scheme for LH IIIC that can be applied to all regions of the Aegean. However, most scholars agree that the period was followed by a final phase, called Submycenaean, during which the Mycenaean Age definitely came to a close and the Early Iron Age of Greece was ushered in.[41]

With regard to the absolute chronology of LH IIIC, there are almost no clues. Because the exchange of goods with the eastern Mediterranean and Egypt had more or less come to an end after the fall of the palaces, LH IIIC contexts have so far not produced imported objects that could connect the relative chronology of the postpalatial Aegean with the historically established chronologies of the Near Eastern civilizations. The only Aegean–Near Eastern synchronism that can be used for the absolute dating of LH IIIC rests upon the fall of the kingdom of Ugarit, where Mycenaean LH IIIB2 pottery was found in the destruction levels. Ugarit still existed during the reign of the pharaoh Siptah (1194–1188 BCE) and possibly also of Queen Tewosret (1188–1186 BCE). According to the report of Ramses III (1184–1153), Ugarit no longer existed when he defeated the Sea Peoples in the eighth year of his reign (1177 BCE). It is therefore generally agreed that the end of LH IIIB and the beginning of LH IIIC should be dated to ca. 1190 BCE or shortly after.[42] New radiocarbon dates seem to corroborate the synchronism of the end of LH IIIC with the end of the Twentieth Dynasty of Egypt, around 1070 BCE.[43] Otherwise, radiocarbon dates are few and provide only a general dating of LH IIIC in the twelfth century BCE. At present, the postpalatial Mycenaean period can thus be assigned generally to the span between ca. 1190 and 1070 BCE. Between these two limits, absolute dates are arbitrarily assigned to the subphases of LH IIIC and to Submycenaean, based on rough estimates of the duration of settlement phases or of generations (20, 25, or 30 years).

A Period Not Easily Lived In

The catastrophes at the end of the palace period obviously caused a great deal of upheaval, population movements, and general unrest. Changes in settlement patterns and fluctuation of populations had already marked the last phase of the palatial period (above, pp. 387–90)

and now continued to an even greater degree. Some settlements and the cemeteries associated with them were abandoned, some were newly founded, and still others were reused after a period of abandonment.[44] In Messenia the population decreased dramatically. Because the region has been thoroughly surveyed, existing sites are not likely to have been overlooked (Ch. 1, p. 9), so a demographic explanation seems inevitable.[45] People may have been killed by epidemics or by human action. However, it appears more likely that they moved to other parts of the Aegean. The same may apply to Laconia and Thessaly, even if further archaeological work in these regions may reveal more LH IIIC settlements. In Boeotia, LH IIIB sites in the Kopaic Basin were flooded when the Mycenaean drainage system broke down after the destruction of Gla and Orchomenos.[46] Other parts of Boeotia also seem to have been abandoned at the end of LH IIIB or in LH IIIC Early. In Achaea and Crete people appear to have moved to safer and more defensible sites within their own regions, and the same may have been true of some new defensible settlements in the Cyclades.[47] Koukounaries on Paros, however, was founded by immigrants, possibly from a palatial center of the mainland (Ch. 14, p. 368).[48] Smaller sites in the Argolid were abandoned and populations concentrated at large and long established sites; the Lower Town at Tiryns may even have expanded.[49] A similar concentration of population ("nucleation") has also been suggested for Ialysos on Rhodes, although it cannot be excluded that large cemeteries may have been reused by new settlers, possibly from the Greek mainland (Ch. 14, pp. 368–9).[50] Population also seems to have increased in eastern Attica, Euboea, and Kephallenia.[51] It is generally assumed that these regions were sought out by refugees.

At the end of LH IIIC Early, several sites were destroyed again. In fact, instability seems to have prevailed throughout the postpalatial period, as destruction levels and evidence for population movements mark the history of many settlements. For instance, the Lower Town at Tiryns was reduced in size after a destruction at the end of LH IIIC Early, and population groups may have left again.[52] In the course of LH IIIC Middle, Koukounaries on Paros, after a short life that began only in LH IIIC Early, was destroyed by enemy action and then abandoned. Phylakopi on Melos met the same fate. In contrast, Grotta on Naxos was resettled and developed, in LH IIIC Middle, into a sizeable town with strong fortifications.[53] At the end of LH IIIC Middle/Advanced, Mycenae, Tiryns, Lefkandi, Aigeira, Kynos/Livanates, and several other sites suffered severe destruction.[54] Korakou was abandoned. In the course of LH IIIC Late, settlements in the Argolid, Laconia, Euboea, and Attica

and on several islands declined, and many sites were abandoned before the end of the period.[55] In contrast, new settlements were founded on Salamis, and a Mycenaean colony flourished at Emporio on Chios.[56] In the northwest Peloponnese, on Kephallenia, and in central Greece, Mycenaean communities also reached a pinnacle. These examples may suffice to suggest that the postpalatial Mycenaean era was by no means a peaceful period in the history of Greece.

The so-called "handmade burnished ware" or "Barbarian ware" in Mycenaean contexts may also be connected with population movements. This non-Mycenaean pottery of prehistoric character had first appeared in LM IIIB contexts in Crete, and in the final phase of the Argive palaces (above, p. 389). In LH IIIC Early, handmade and burnished pottery was found at Tiryns and Mycenae and at Lefkandi, Korakou, Aigeira, Teichos Dymaion, the Menelaion, Dimini, and several other sites. It even occurred in twelfth century BCE contexts in Cyprus. The quantities found are always very small. The origin of this pottery has been the subject of much debate.[57] In view of its widespread occurrence, it cannot have been a local phenomenon. It was made locally, though, even at Chania in Crete; it is only at Kommos that handmade and burnished vessels were imported from Sardinia.[58] However, handmade burnished ware did not have a Mycenaean pedigree, nor was it a complement to the Mycenaean repertoire of coarse household pottery. Because it is unlikely that it met the demands of a population used to the standards of Mycenaean ceramics, its production has been ascribed to the presence of a foreign population element in the Aegean. Its provenance has been sought in southeast Europe, in northwest Greece, in regions on both sides of the Adriatic, or in the northern Balkans. The role of people from these areas within the Mycenaean communities remains unclear, however. It is much debated whether or not they had been involved in the catastrophes of the palaces and, in any case, the small quantities of handmade burnished ware do not suggest the presence of large groups of foreigners. Continuity of LH IIIC handmade burnished ware into the Early Iron Age has also been suggested, but at many sites this pottery class disappeared in the course of LH IIIC.

The island of Cyprus was also afflicted by destruction and abandonment of sites around the turn of the thirteenth to the twelfth century BCE. The subsequent cultural phase of Late Cypriot (LC) IIIA was marked by various novelties that exhibited a distinct Aegean character. LC IIIA pottery, in particular, shows Mycenaean influences.[59] Moreover, the Cypriot Greek dialect of the first millennium BCE had several features in common with Mycenaean Greek. It was therefore

assumed that Mycenaean population groups fled from the disasters of the palaces to Cyprus and introduced the Greek language to the island (Ch. 14, pp. 375–7). Recent research has shown, however, that LC IIIA pottery was already marked by the influence of Aegean LH IIIC Early pottery.[60] Moreover, the cultural novelties of LC IIIA were not exclusively of Mycenaean character. **Horns of consecration** (a symbol shaped like abstract bull horns; Ch. 6, p. 148) found at Myrtos, Kition, and Palaipaphos were Minoan features. Even handmade burnished pottery appears in LC IIIA contexts. It is therefore likely that people from various parts of the Aegean banded together and set off for Cyprus. The question of whether they were part of, or identical with the ominous "Sea Peoples'" and furthermore whether they were responsible for the widespread destruction in Cyprus, is the topic of longstanding discussion (Ch. 14, p. 376).[61] At Maa–Palaiokastro, at any rate, they settled peacefully. Be that as it may, their move was not prompted by the fall of the Mycenaean palaces, because it took place too late, during or toward the end of LH IIIC Early. Moreover, the arrival of people from the Aegean (artisans?) seems to have given a boost to the Cypriot civilization of the twelfth century BCE. Contrary to the postpalatial cultures of the Aegean, complex social systems and a high level of material culture continued in Cyprus. However, the island's culture remained essentially Cypriot. It was not until the eleventh century BCE that the "Greekness" of Cyprus was inaugurated by immigrants from mainland Greece.[62]

The Material Culture

Settlement and Architecture

Although settlement was resumed or continued at many sites in LH IIIC, the demise of the palatial system caused a fundamental transformation of the Mycenaean way of life and material culture. As might be expected, this was particularly true in the former palace states. No palace was restored. Pylos remained in ruins. At Thebes a reoccupation of the general area is attested by LH IIIC burials in the chamber tombs, but a modest reoccupation of the palace site, and extends to the early part of LH IIIC Middle.[63] Dimini, too, was reoccupied and destroyed again in LH IIIC Early.[64] At Midea the lower terraces were reoccupied in LH IIIC Early and Middle. At the end of LH IIIC Early a comparatively large building, subdivided by a row of columns, was set into the remains of an LH IIIB **megaron** (an axial building unit consisting of main room with anteroom and/or porch).[65]

Of the palatial sites only Tiryns and Mycenae remained in use throughout LH IIIC. Inside the citadel of Mycenae, repair and reuse of earlier structures such as the so-called Granary in the vicinity of the Lion Gate took place, and new structures were built. By LH IIIC Middle, splendid pottery such as the famous Warrior Vase (Pl. 15.3) was produced, so that some prosperity had apparently returned (below, pp. 399–401).[66] There is also evidence that the southwestern part of the palace continued to be used for religious purposes.[67] As a matter of fact, fragments of wall paintings (among them a beautiful picture of a woman holding a lily) were found in a building of LH IIIC Late in this area.[68] However, the architectural standards of the palace period were never regained.

The best evidence for LH IIIC architecture comes from Tiryns, where a complete settlement sequence has been excavated in the Lower Citadel.[69] Apart from the fortification walls, though, neither monumental structures nor house designs of the palace period were restored. Outside the Citadel, an extensive and well-planned town of ca. 25 **hectares** (a hectare is 10,000 sq. m. or about 2.5 acres) existed in LH IIIC Early. The settlement plan displayed self-contained household units that consisted of domestic structures, storerooms, and workshops arranged around a courtyard. Continuity of a palace period structure, albeit on a much inferior level, is suggested by Building T, a small megaron-like building on the Upper Citadel, now dated to LH IIIC (below, p. 404). It was set into the ruin of the great megaron of the former palace, and in front of it the altar of the Great Court was remodeled.[70] Another building dated to LH IIIC Early stood out in the northeastern sector of the Lower Town. It was large in size and subdivided by colonnades.[71] An even larger building called Megaron W was founded in LH IIIC Middle at the southeastern foot of the citadel. Each megaron-like LH IIIC buildings found so far at Tiryns and Midea had its main room subdivided by a row of columns. They seem to reflect a process of social ranking within the community (below, p. 403), and a remarkable sequence of LH IIIC shrines in the Lower Citadel of Tiryns bears witness to the transformation of palace sanctuaries into public places of worship.[72]

Evidence for the regions outside the former palace states is very limited. House plans of newly founded sites in LH IIIC Early such as Lefkandi and Aigeira resemble those of Tiryns.[73] At other sites such as Korakou in the Corinthia and Ayios Kosmas in Attica houses were rebuilt on their earlier layout, although on a more modest scale, and settlement also continued in the citadel of Teichos Dymaion in Achaea.[74] In LH IIIC Middle, settlement plans might consist of complex buildings

with several rooms. Moreover, Naxos and Aigeira were fortified. On Crete square house plans were preferred, but east Cretan settlements situated at high elevations, such as Karphi, Kavousi, and Vrokastro, had to adapt their layouts to the steep terrain. Long rectangular house units clustered closely together, separated by narrow alleys, and no apparent alignment was maintained. Isolated and rectangular buildings played a role in cult architecture.[75] Defensive sites on hilltops were fortified.[76]

Cemeteries and Burial Customs

Mycenaean cemeteries continued to be used in LH IIIC or were reused after a period of abandonment.[77] Some chamber tomb cemeteries were newly founded. The best published example is Perati in eastern Attica, where the sequence of burials was divided into three phases dating to LH IIIC Early, Middle, and Late. Some **tholos** tombs (round domed tombs; Fig. 13.2) of the palace period were reused in LH IIIC Middle and Late. Otherwise no new ones were built in LH IIIC, except for the small tholoi and vaulted rectangular tombs founded in some regions of the former Mycenaean periphery, such as Thessaly, Phokis, Kephallenia, and Crete. Regional varieties in tomb architecture and burial customs were as manifold as they had been during earlier periods (Ch. 13, pp. 328–30). There were, however, some novelties. At Olympia and Aigeira–Psila Alonia, and on Kephallenia, parallel rectangular trenches were dug into the tomb floors to receive the bodies ("dormitories"). In newly founded cemeteries such as Perati, pit graves were dug, along with chamber tombs. Cist graves and intramural single burials start late in the period. Cremation, although not altogether a new phenomenon in the Aegean, occurred more frequently in LH IIIC. Both cremation and **inhumation** (burial) were practiced on the mainland, as well as on the islands, but cremation always remained a minority rite. The same applies to a **tumulus** (burial mound) recently found at Argos that contained both cremations (some in handmade pots) and inhumations. In contrast, the walled tumulus excavated at Chania near Mycenae contained only cremations in ash urns. Both tumuli were dated by their burial gifts to LH IIIC Middle and Late.[78] They certainly were a remarkable feature of twelfth century BCE burial architecture in a central region of Mycenaean Greece.

Novelties in grave pottery include the lekythos (a narrow-necked jug), flasks, ring-shaped and bird-shaped vases, and the kalathos (a deep conical open vase), with small terracotta figurines of wailing women on

its rim, arms raised to their heads. In LH IIIC Middle and Late, lavishly decorated stirrup jars and other closed shapes join the ensembles. The array of burial gifts in LH IIIC tombs was generally modest. However, a certain degree of social differentiation seems to be reflected by burials with gifts of special value or foreign origin, as well as by objects for personal grooming (below, pp. 403–4). Even more conspicuous were the so-called "warrior burials" of LH IIIC (Ch. 13, p. 335), of which the region of Achaea has provided the most splendid examples.[79] The most conspicuous elements of these burials were swords, spears, and other elements of excellent LH IIIC weapons and armor (Pls. 15.1, 15.2). In contrast to the popularity of "heirlooms" in the realm of precious objects and "exotica" (below), weapons deposited in LH IIIC burial contexts were never old-fashioned.

Arts and Crafts

Except for pottery-making, bronze work, and shipbuilding, there is no evidence that the fine arts and skills of the palatial culture survived into LH IIIC. Artisans may have perished or fled together with their patrons, or their skills were no longer in demand. Jewelry, seals, and objects of carved bone manufactured in LH IIIC were simple and unassuming. The contents of the cemetery at Perati provide a good example.[80] Production of glass and faience objects seems to have ceased altogether. Attempts to apply advanced techniques such as repoussé to produce human and animal forms in sheet gold were not very successful. In fact, objects of fine craftsmanship and precious materials may have been manufactured in the palace period and passed down into LH IIIC as heirlooms. The same applies to many objects of Egyptian and Near Eastern origin found in LH IIIC contexts.

Fresco painting may have enjoyed a limited survival in cult buildings, as suggested by the fragments found at Mycenae.[81] Otherwise, craftsmen trained in fresco painting may have transferred their skills in LH IIIC to other artistic media, as suggested by a limestone stele from Mycenae covered in LH IIIC Middle with stucco and decorated with warriors and animals, or by the famous Warrior Vase from Mycenae (Pl. 15.3)[82].

The general loss of crafts and technology is reflected by the lexical disappearance of the Linear B terminology relating to specialized crafts, particularly in the textile industry, and to the production of luxury goods. Most of the Mycenaean professional terms vanished with the

palaces. Those terms which carried on into the later first millennium refer to essential domestic and agricultural activities, to livestock breeding, and to the basic crafts required by a rural community, such as bronzesmith, potter, fuller, baker, woodcutter, and mason.[83]

This artistic decline in LH IIIC contrasts with the flowering of the minor arts in Cyprus in the twelfth century BCE. In fact, it was there that Aegean style and techniques in ivory carving, gem cutting, and jewelry survived. They were integrated into the cultural physiognomy of LC IIIA, probably as a result of the immigration of Aegean population groups in Cyprus, and even survived into the Early Iron Age.

Pottery

The diachronic development of LH IIIC pottery types and decorative patterns has been extensively treated.[84] Pottery of LH IIIC Early did not differ greatly from that of LH IIIB2, except for a few new types and a marked tendency toward linear decoration and monochrome surfaces. The occurrence of handmade burnished ware has already been mentioned (above, p. 395). Wheelmade Mycenaean pottery was not affected by the general technical and artistic decline of the period. Indeed, vase painting of LH IIIC Middle was marked by a spirit of vitality and innovation to a degree that has been regarded as a last blossoming of Mycenaean representative art. In almost every Mycenaean province, distinct styles of copious vase decoration were created. It seems that artisans, who during the palace period would have worked as fresco painters, ivory workers, or gem cutters, now found a ceramic outlet for their artistic abilities.

The most successful creations were the close style of the Argolid (Pl. 15.4), the octopus style of coastal areas and islands, and the pictorial style that depicted humans, animals and fantastic creatures (Pls. 15.5, 15.6).[85] Copiously decorated stirrup jars (Pl. 15.4), traditionally used as containers for valuable liquids such as perfumed oils and wine, were exchanged throughout the Aegean and obviously played a role in gift-exchange relationships. They were also deposited in tombs as gifts to the deceased. Ceramic sets used for feasting and drinking parties, too, carried pleonastic decoration, thus indicating value, as well as the status of their owners. The huge kraters (mixing bowls), in particular, are decorated with pictures that seem to reflect the self-awareness of social elites. Representations of warriors walking in file or riding chariots, fighting scenes, a chariot race, seafaring and single combat on ships,

hunting scenes, and dancers refer to predominantly male conduct characterized by military prowess and aristocratic behavior.[86] Contacts and cultural exchange between the various centers of pottery production also promoted stylistic developments that were common to all Mycenaean provinces. They counterbalanced a marked tendency of LH IIIC pottery styles toward regional idiosyncrasies. The same observation also applies to the ordinary pottery of everyday use. When the flamboyant pottery styles gradually died out in LH IIIC Late, the basic similarities between the ceramics of all Mycenaean regions became apparent again as in LH IIIC Early. At the end of the postpalatial period, shapes and decorative patterns showed much restriction and uniformity. In some regions, for example, parts of central Greece, this repertoire survived into the Early Iron Age.

Metalwork

In contrast to the decline in gold and silver work, the bronzesmiths of the postpalatial period were able to keep up a high standard of their craft. In fact, weaponry reached a pinnacle of achievement. In LH IIIC a complete array of new weapons found widespread distribution in the Mycenaean world. Their origin has been traced back to Italy and other regions around the Adriatic, like that of the handmade burnished ware (above, p. 395). The first specimens had already appeared, at palace sites, before the end of LH IIIB. After the fall of the palaces, not only was a wider range of weapons introduced, but also new types of knives and various tools and implements. It appears that regular contacts and exchange between the Aegean and the west survived the demise of the palaces or were reestablished soon after. In fact, Mycenaean smiths quickly learned how to make the new weapons. As a consequence, in LH IIIC the Mycenaean world became a branch in its own right of a wide zone of advanced metalwork with shared features. The new set of weaponry (Pl. 15.1) comprised the cut-and-thrust sword of the flange-hilted Naue II type, long and short types of socketed spearheads, spear butts, greaves, shields, and the so-called Peschiera (Pertosa) dagger with a forked, flanged hilt.[87] New types of body armor and helmets and a new type of chariot were depicted on pictorial style vases (Pls. 15.5, 15.6).[88] Swords of the traditional Aegean type, too, were developed further, but the Naue II weapon was more successful. Iron knives, probably of Cypriot origin, were a novel feature that appeared during the later part of LH IIIC.[89] Fibulae, of northern origin, were produced in greater varieties in LH IIIC. Rings with antithetic spiral terminals

and shield rings with embossed dots also came from the north. They were introduced at the end of the period and became popular in post-Mycenaean times.[90]

Beyond the Material Culture

Religion and Cult Practice

The very fact that all the Olympian gods with the exception of Aphrodite and Apollo are mentioned in the Mycenaean texts (Ch. 13, pp. 348–50) bears witness to the survival of Mycenaean religion after the fall of the palaces. However, changes in cult architecture and religious practice were inevitable after the demise of the palaces and of Mycenaean theocratic kingship. Although some rites such as libation, burnt animal sacrifice, and ritual banquets continued to be practiced, most religious ceremonies mentioned in the Linear B texts fell into oblivion. Offerings deposited in sanctuaries were also marked by both continuity and change. Female terracotta figurines, of both the small and the large wheelmade type, remained popular, as did small bovine figurines. However, the small female figurines were confined to the psi type, with curving upraised arms, and novelties such as male figurines and wheelmade bovine figures were introduced. Sanctuaries of the postpalatial period were self-contained and accessible to the general public. The small sanctuary in the Lower Citadel at Tiryns provides a good example. [91] It was built in LH IIIC Early and remodeled twice, in LH IIIC Middle and again in LH IIIC Late. Among the offerings deposited on its cult bench, the famous large wheelmade female figures dated to LH IIIC Middle and Late stand out (Pl. 15.7). In its last phase, the ground plan of the shrine was that of a small megaron. Shrine architecture, cult equipment, and votive gifts varied from region to region, as demonstrated by the twin sanctuary at Phylakopi, the last phases of the age-old Temple at Ayia Irini on Keos (Ch. 8, p. 196), and House G at Asine.[92] A rural sanctuary was excavated at Kalapodi in Phokis.[93] At Mycenae the area of the palatial Cult Center seems to have kept its religious significance (Chs. 11, pp. 264, 270; 13, p. 350).

Cretan sanctuaries and cult practices were also affected by the turbulence at the end of the thirteenth century BCE. In LM IIIC, Mycenaean features such as psi-type figurines appeared at Phaistos, Gortys, and Chamalevri. However, in many places the genuinely Minoan urban bench sanctuary prevailed, associated with certain sets of cult objects

such as large clay female figures (the so-called "Goddess with Upraised Arms"), stands, snake tubes, and certain types of receptacles. Open-air sanctuaries operated at Kato Syme and at Ayia Triada. Worship in peak sanctuaries and sacred caves continued in LM IIIC on Mount Iuktas and in the caves of Psychro and on Mount Ida. Offerings included wheel-made terracotta figures of animals and fantastic creatures (monsters), objects of personal ornament, and pottery.[94] Most sanctuaries did not survive the end of LH/LM IIIC, except in peripheral regions such as Kato Syme in Crete or Kalapodi in central Greece.

Social Organization, Economy, and Interregional Contacts

Research into these aspects of the postpalatial period is still in its infancy. However, there can be no doubt that the collapse of the palace states led to a deep-rooted change in social organization and economy. The lexical disappearance of Mycenaean political, social, and administrative terms is even more pronounced than in the field of work and production.[95] Judging from the archaeological evidence (above, pp. 396–9), postpalatial settlements were inhabited by village-like communities that consisted of self-contained and economically independent households. Communal productivity, as indicated by the existence of potters' kilns and granaries, does not appear to have extended beyond the limits of self-sufficiency.

Autonomous communities of the postpalatial period may well have prompted the shift of the political term **dāmos** (body politic), which once had been a designation for local administrative units of the palace system (Chs. 12, pp. 300–301; 13, pp. 334, 353), to its later use in Greek political terminology ("community," "municipality," "district," "people"). Moreover, the disintegration of the unified territories of palace states promoted the rise in status of the **basileus** from a local dignitary (Mycenaean **g^{w}asileus**, Ch. 12, p. 293) to a position of elite and even chiefly rank; in the first millennium the word eventually came to mean "king." There is evidence that the period of LH IIIC had a part in this transformative process. Social ranking is reflected by buildings that, by their size and by special features such as colonnades, outgrew the general plainness of postpalatial architecture (above, pp. 396–8). In funerary contexts, elite status was expressed by the deposition of prestige objects consisting of valuables (gold and ivory objects, bronze vessels, sealstones, splendidly decorated stirrup jars) and objects that may be called "exotic," such as amber, as well as objects of Egyptian, Syro-Palestinian, and Cypriot origin (above, p. 399). Many of them were

heirlooms or antiques that had been manufactured in earlier periods. Objects for personal grooming (tweezers, razors, combs, mirrors) also indicated elite status. Moreover, the elite funerary rite of **prothesis** (mourning the deceased on a bier), which later on became a favorite theme of Attic geometric vase painting, was already practiced in LH IIIC (and earlier, Chs. 11, p. 272; 13, p. 338; Pl. 13.2).[96] Images painted on pictorial-style vases further suggest that military excellence was of paramount importance for the achievement of rank and political power (Pls. 15.5, 15.6),[97] hardly surprising in view of the unstable conditions of the period. In fact, military prowess may well have paved the way to political rule, as the "warrior burials" of LH IIIC Middle and Late seem to indicate (above, p. 399; Ch. 13, p. 335). No cemetery had more than one or two tombs containing warrior burials, even if elite burials occurred in several or all other tombs. Claim to political power may have also been expressed by the possession of objects commonly interpreted as "scepter heads" and of signet rings, which were often of Early Mycenaean origin. A fine analysis of the famous Tiryns Treasure and of Building T at Tiryns (above, p. 397), which occupied the site of the former royal megaron and even integrated the place of the throne in its layout, has recently suggested that some families managed to rise up to kingship by claiming descent from the monarchs of the palace period.[98] As a matter of fact, the precious Early Mycenaean sword pommels found in the LH IIIC Middle "megaron" at Midea may have underlined, in a similar way, a claim for power by descent.[99] It is therefore likely that during LH IIIC, just as in the Homeric epics, the title of basileus was adopted both by the members of social elites and by those who managed to establish monocratic rule.

Representations of ships were a popular theme of pictorial vases and testify that there was no decline in Mycenaean ship construction (Pl. 15.5).[100] Overseas contacts were quickly reestablished after the fall of the palaces, as shown for example by the mutual influences between Minoan and Mycenaean pottery in LH IIIC Early,[101] and by the general mobility of population groups mentioned earlier (above, pp. 393–6). Though the decline in the fine arts and luxury crafts had curtailed the need for regular importation of precious raw materials, bronze and copper were still highly desired for the production of weapons and other items. Furthermore, the exchange of splendidly decorated vases and of prestige objects is attested particularly by the evidence from tomb contexts. It has therefore been suggested that metals and prestige goods were obtained by way of small-scale trading and via a network of gift exchange, both dominated by the social elites.[102] Representations of

warrior-rowers and of fighting on shipboard suggest that contacts were not always friendly. Even sea raiding may not have been alien to the warrior elites of the period.

External contacts with the regions across the Adriatic and to the north along the Great Isthmus Corridor Route were soon revived in LH IIIC and remained intact throughout the period.[103] In contrast, the Aegean played a peripheral role in economic relations between the mighty Cypriot states and the West. Contacts between Cyprus and the Aegean became closer again during the later stages of LH IIIC and probably inaugurated the introduction of iron objects and iron working into the Aegean.[104] However, they may have also laid the foundations for the immigration of Greek population groups and the establishment of the Greek language in Cyprus in the eleventh century BCE.[105]

Continuity and Change, Losses and Gains: A Summary

The fall of the palaces and the catastrophes in its wake must have had a traumatic impact on individuals, as well as on the communities of the Mycenaean world. Many people left their homes, seeking security or trying their luck elsewhere. Others remained at home, repaired their dwellings, and continued with their day-to-day lives. Yet nothing was the same as before. Not only had the political and economic conditions fundamentally changed, but also material culture and spiritual life were deeply affected by the collapse of the palace states. Arts and crafts, technology, social behavior, cult practice, burial customs, and other cultural features were no longer maintained by an advanced and complex political system commanding highly developed economic and cultural potentials. Nor did artisans have to meet the demands of theocratic monarchs and sophisticated courtiers. Looked at from the height of the palatial civilization of the fourteenth and thirteenth centuries BCE, the postpalatial period certainly gives the impression of impoverishment.

However, it must be remembered that many developments of LH IIIC, such as a certain cultural decline and changes in settlement patterns, had already begun during the final phase of the palaces. It is conceivable that during the critical situation in LH IIIB2, the general population felt that increased investments to preserve the system no longer yielded the benefits that were expected in return. The demise of the palace system may well have been welcomed in some quarters as a relief from strain (above, pp. 387–90). Moreover, local communities

may then have found themselves free to reorganize their social structure and to dispose of their own resources and products. The natural environment, too, seems to have recovered from exploitation by the palace economies: In LH IIIC the quality of grains improved again in the Argolid, and in Messenia the tree population increased.[106] Furthermore, the Mycenaean regions outside the palace states must have welcomed the termination of the economic, cultural, and presumably also political predominance that had been exercised by the palace states. A marked cultural regionalism suggests that those areas that had been formerly reduced to "provinces," in the disparaging sense of the word, could now develop their own economic and artistic potentials. Supra-regional cultural developments furthermore bear witness to regular contacts and exchange across the Aegean and beyond.

Looked at in its own right, the Mycenaean postpalatial period was by no means devoid of creativity and innovations. New settlement plans emerged, reflecting new political and economic structures. Technologies were promoted, particularly in the field of bronzework. In fact, in LH IIIC, Middle Mycenaean culture had its final flowering. Large wheelmade terracotta figures of humans and animals deposited in sanctuaries bear witness to the artistry of craftsmen working in ceramics. Revival in the representational arts is also revealed in the flamboyant decorations of LH IIIC Middle clay vessels. Narrative scenes anticipated themes and motifs that are found, later on, on Late Geometric vases. Cypriot pottery of the eleventh century BCE was also indebted to the LH IIIC pottery tradition, and the same is true of Early Iron Age pottery styles of the various provinces of Greece.[107] Moreover, linguistic analyses, as well as the image of a figure playing a small lyre depicted on a vase fragment from Tiryns,[108] suggest that during the twelfth century BCE the legacy of Mycenaean poetry was transformed into a tradition of oral poetry, which, several centuries later, Homer found at his disposal.[109] It thus appears that, during the last phase of Mycenaean civilization, people came to terms, apparently quite well, with the vicissitudes of their time.

Epilogue

LH IIIC Middle ended again in destruction at many sites. Prosperity seems to have continued for a while in LH IIIC Late, but then the history of the various provinces of Mycenaean Greece diverged (above, pp. 393–6). Settlement declined in the eastern regions of the

Peloponnese, such as the Argolid and Corinthia, and on several island sites, such as Lefkandi, Keos, and Naxos, whereas sites on Salamis and Emporio on Chios flourished. The numbers of burials in the tombs of Perati decreased, and the cemetery was eventually abandoned. On the other hand, cemeteries in Arcadia, Elis, and Achaea and on the Ionian islands were used until the very end of LH IIIC.[110] They were all then abandoned, quite abruptly. It has been suggested that Greek population groups set off for Cyprus, and they may also have sought out the western coast of Asia Minor during the eleventh century BCE. In those regions that were later known under the name of Ionia, Greek colonization did not begin before the Submycenaean and Protogeometric periods.[111] Further south, however, Miletos, Iasos, and Müskebi had already been well integrated into the Mycenaean world from LH IIIA2 until LH IIIC.[112] In contrast, settlements and cemeteries of the Mycenaean periphery of central and northern Greece remained in use beyond the transition from the Mycenaean era to the Early Iron Age.[113] However, several phenomena of Mycenaean survivals notwithstanding, scholars unanimously agree that the close of the Mycenaean Age may be defined with the end of LH IIIC Late or during the Submycenaean period, at the latest.

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Glossary

word (plural)	definition
agrimi (agrimia)	Cretan wild goat
apsidal	Of houses, with one rounded end
argonaut	Marine mollusk with a spiral shell
ashlar	Masonry style with smoothed rectangular cut blocks
basileus (basileis)	Homeric and Classical Greek word for "king"
corbelled	Constructed of overlapping courses of blocks, each kept in place by the weight of the blocks above
dāmos (dāmoi)	Body politic; local administrative entity in Mycenaean states, with authority at least over land allocation
dromos (dromoi)	Entrance passage of a tholos or chamber tomb
ekphora	Carrying a bier to a grave site
fibula (fibulae)	Safety-pin-like dress fastener
genius (genii)	Fantastic creature in Minoan and Near Eastern iconography
g^{w}asileus (g^{w}asileis)	Mycenaean official; supervises work groups but range of functions not known
hectare	10,000 square meters; approximately 2.5 acres
horns of consecration	Minoan symbol shaped like a pair of abstract bull horns; it may represent a double mountain peak
inhumation	Burial
koine	Common style or language
kylix	Mycenaean stemmed drinking cup
larnax (larnakes)	Clay coffin
lāwāgetās (lāwāgetai)	Second-highest official of a Mycenaean state; the title probably means "leader of the people"

light well	Small room open to the sky, allowing light and air to reach lower stories; a Minoan architectural feature
lustral basin	Small sunken room of unknown function; a Minoan architectural feature
megaron (megara)	Axial building unit consisting of a main room with anteroom and/or porch; central unit of Mycenaean palaces
niello	Black adhesive of copper, silver, and lead sulfides, used with metal inlay
orthostat	Upright stone slab
pithos (pithoi)	Large clay storage jar
polity	Politically organized society
polythyron (polythyra)	Rectangular room with pier and door partitions; a Minoan architectural feature
prothesis	Mourning the deceased on a bier
pyxis (pyxides)	Small box of clay, stone, or ivory
rhyton (rhyta)	Ceremonial vessel, conical or in animal shape
sealing	Lump of clay impressed by a seal
snake frame	Ceremonial Minoan headgear with wide curving horns
stomion (stomia)	Doorway of a tholos or chamber tomb
tholos (tholoi)	Round domed tomb
tumulus (tumuli)	Burial mound
urfirnis	Of pottery, coated with a semi-lustrous black slip
wanax (wanaktes)	Mycenaean Greek word for "king" (used in Homeric and Classical Greek as "lord," also used of chief gods and men)

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PLATE 2.1. Sealing from the House of the Tiles at Lerna, EH IIB. M. C. Heath, "Early Helladic clay sealings from the House of the Tiles at Lerna." *Hesperia* 27 (1958) pl. 26 no. 23. © American School of Classical Studies at Athens. Courtesy of the Trustees of the American School of Classical Studies at Athens.

PLATE 3.1. "Frying pan" from the Chalandriani cemetery, Syros, bearing an incised image of a longboat with fish totem, sea-spirals, and vulva (NM 4974), EC IIB. Courtesy of the National Archaeological Museum, Athens.

PLATE 4.1. Vasilike ware side-spouted jar ("teapot") from Myrtos–Phournou Koriphi, EM IIB. P. M. Warren, *Myrtos: An Early Bronze Age Settlement in Crete*. London: British School at Athens 1972, pl. 63 D pot 657. Courtesy of Peter Warren.

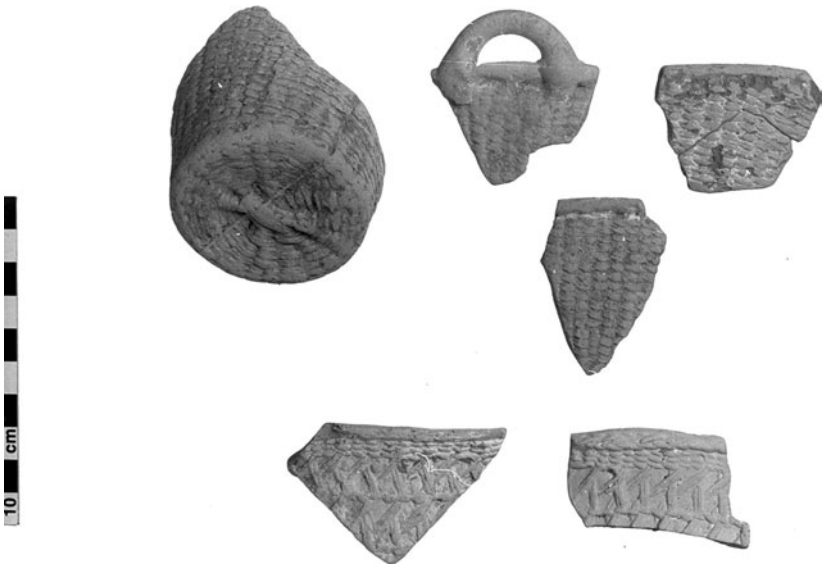

PLATE 5.1. Basket vase from Malia, Quartier Mu, Protopalatial. Photograph by Philippe Collet. Courtesy of the École Française d'Athènes and Jean-Claude Poursat.

PLATE 5.2. Roughly made goblets from Knossos, Protopalatial. Photograph by Kathy May. Courtesy of the British School at Athens.

PLATE 5.3. Mirabello imported jar from Quartier Mu, Malia, Protopalatial. Photograph by Philippe Collet. Courtesy of the École Française d'Athènes and Jean-Claude Poursat.

PLATE 6.1. Gold finger ring from the Phournoi cemetery at Archanes, Tholos A, context LM III A1. Photograph by the authors.

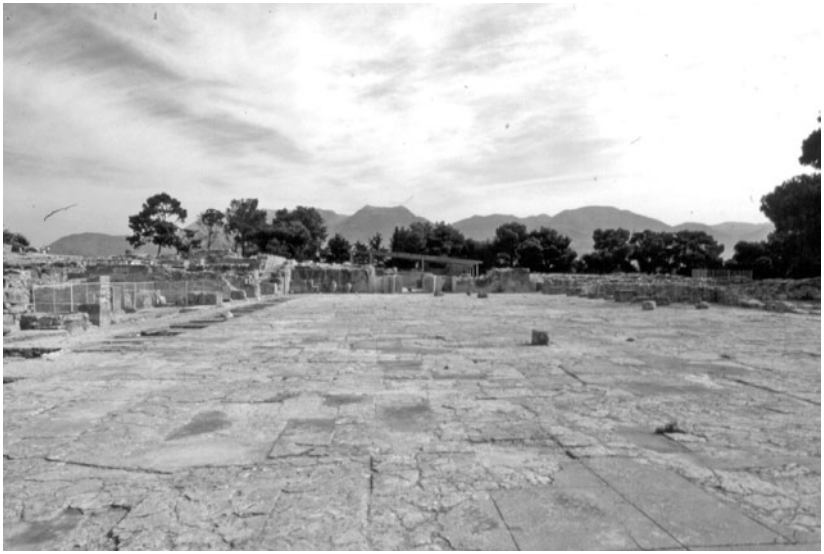

PLATE 6.2. Phaistos palace, Central Court looking north to Mt. Ida. Photograph by the authors.

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PLATE 6.6. Phaistos palace, polythyron in the North Wing. Photograph by the authors.

PLATE 6.7. Nirou Chani, polythyron entrance. Photograph by the authors.

PLATE 6.8. Marine style ewer from Poros, LM IB. Photograph by the authors.

PLATE 6.9. Ivory youth from Palaikastro, side view. Photograph by the authors.

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PLATE 7.1. Stone relief ("Sanctuary") rhyton from Zakros. Photograph by the authors.

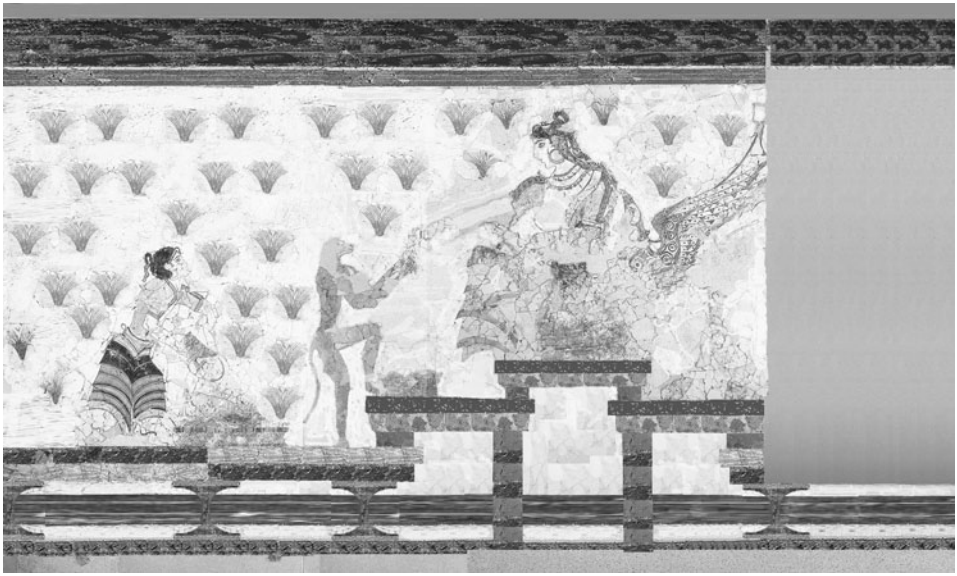

PLATE 7.2. Computer-enhanced composite reconstruction of the upper fresco from Xeste 3, Akrotiri, Thera. Photograph by the authors.

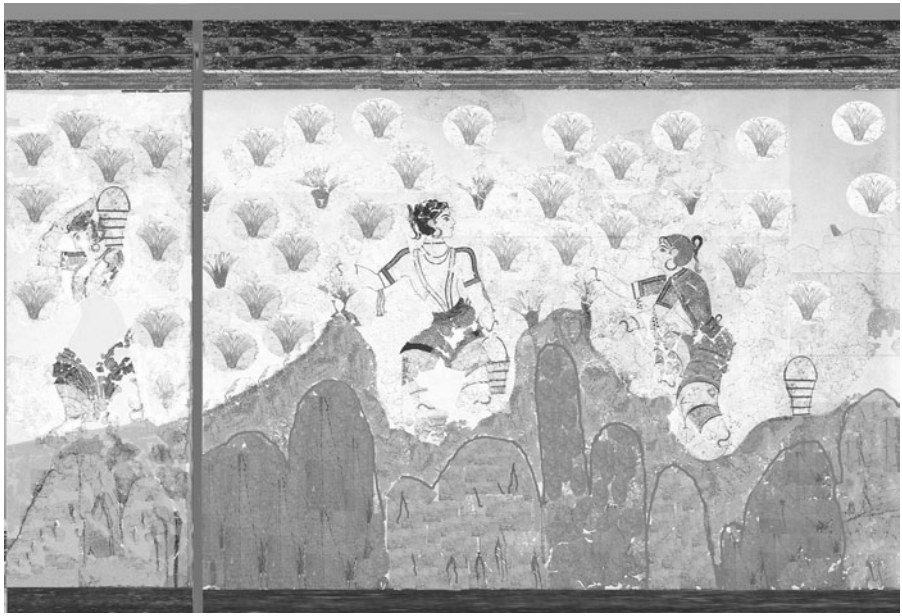

PLATE 7.3. Sealing ("Master Impression") from Chania, House A, obverse. Photograph by the authors.

PLATE 7.4. Archanes, Phournoi cemetery. Photograph by the authors.

PLATE 7.5. Linear A tablet from Zakros (KZ 8). Photograph by the authors.

PLATE 7.6. Sealing ("Master Impression") from Chania, House A, reverse, showing the wrapped "package." Photograph by the authors.

PLATE 7.7. Phaistos Disc, side A. Photograph by the authors.

PLATE 8.1. Scarps of the caldera of the Thera volcano. Photograph by Susan G. Cole. Courtesy of the author.

plate 8.2. View of Ayia Irini and the bay of Ayios Nikolaos, Keos. J. L. Caskey, "Excavations in Keos, 1960–1962." *Hesperia* 31 (1962) pl. 93a. Courtesy of The Department of Classics, University of Cincinnati.

PLATE 8.3. Burnished barrel-jar from Ayia Irini, Keos, MC. J. C. Overbeck, *Keos* VII. *Ayia Irini: Period IV*. Part 1: *The Stratigraphy and the Find Deposits*. Mainz: Philipp von Zabern 1989, pl. 87c. Courtesy of The Department of Classics, University of Cincinnati.

PLATE 8.4. Terracotta statue from the Temple at Ayia Irini, Keos. M. E. Caskey, *Keos* II. *The Temple at Ayia Irini* 1: *The Statues*. Princeton: American School of Classical Studies at Athens 1986, pl. 4a. Courtesy of The Department of Classics, University of Cincinnati.

plate 8.5. Flying fish fresco from Phylakopi, Melos. After T. D. Atkinson, R. C. Bosanquet, C. C. Edgar, A. J. Evans, D. G. Hogarth, D. Mackenzie, C. Smith, and F. B. Welch, *Excavations at Phylakopi in Melos*. London: Macmillan and Co. 1904, pl. III.

PLATE 8.6. Fortification wall at Phylakopi, Melos, LC I. Photograph by the author.

plate 8.7. Black and Red style griffin jar from Ayia Irini on Keos. Probably made on Thera. W.W. Cummer and E. Schofield. *Keos* III. *Ayia Irini: House A*. Mainz: Philipp von Zabern 1984, pl. 79 lower right. Watercolor by Alice Fathke. Keos Archives. Courtesy of the Department of Classics, University of Cincinnati.

PLATE 8.8. Discoid loom weight from Iasos in Asia Minor. Italian Archaeological Mission at Iasos. Courtesy of Nicoletta Momigliano.

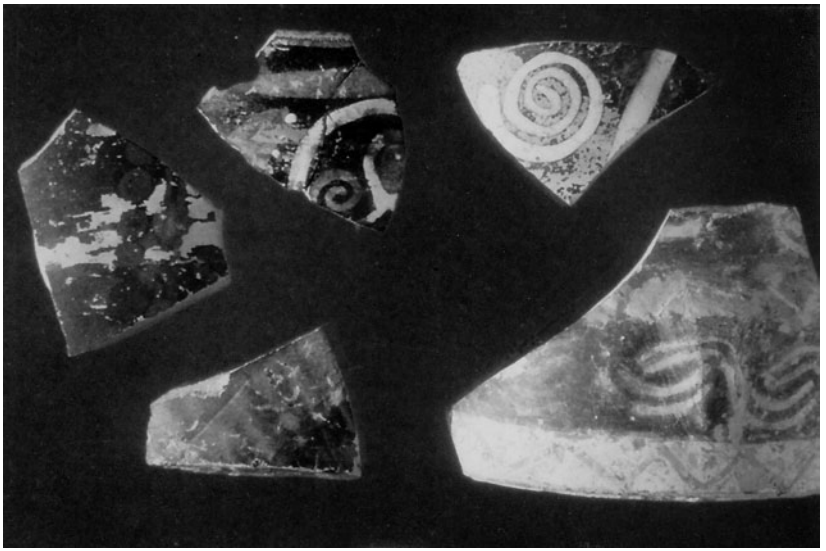

plate 8.9. Kamares ware sherds from Miletos. After A. Raymond, *Miletus in the Middle Bronze Age and Minoan Presence in the Eastern Aegean*. Ph.D. dissertation, University of Toronto 2005, pl. 12. Courtesy of Amy Raymond and Wolf-Dietrich Niemeier.

PLATE 8.10. Conical cups from Ayia Irini, Keos. Keos Archives. Courtesy of The Department of Classics, University of Cincinnati.

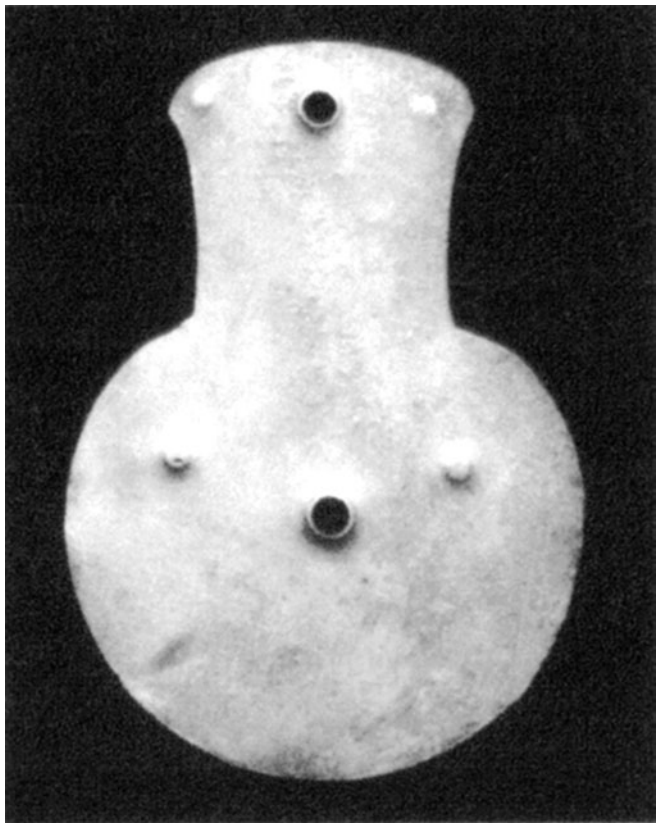

PLATE 9.1. Balkan silver pendant found at Amnisos, Final Neolithic period. Height 9 cm. Courtesy of the author.

PLATE 9.2. Cycladic clay pyxis found at Ayia Photia, EM I–II transition. Courtesy of the author.

PLATE 9.3. Copper ingot from Ayia Triada, LM I. Length 49 cm. Courtesy of the author.

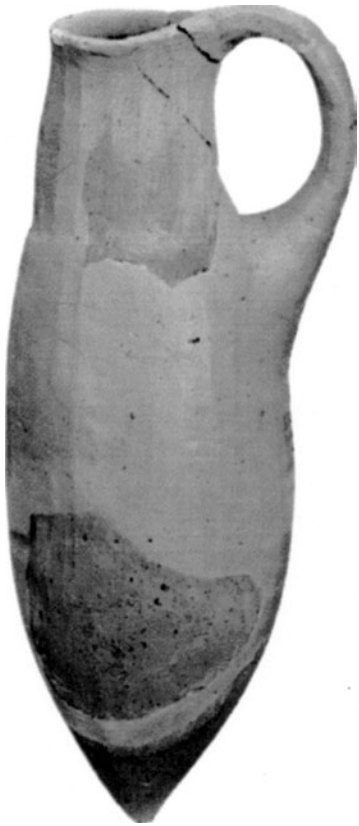

PLATE 9.4. Cypriot white shaved jug from Kommos, LM IIIA2. Height 20 cm. Courtesy of the author.

PLATE 9.5. Canaanite amphora found at Kommos, LM IIIA2. Height 76 cm. Courtesy of the author.

PLATE 10.1. Matt-painted kantharos from Lerna, MH. E. D. T. Vermeule, *Greece in the Bronze Age*. Chicago: University of Chicago Press 1964, pl. IX A. © 1964 by The University of Chicago. Courtesy of The University of Chicago.

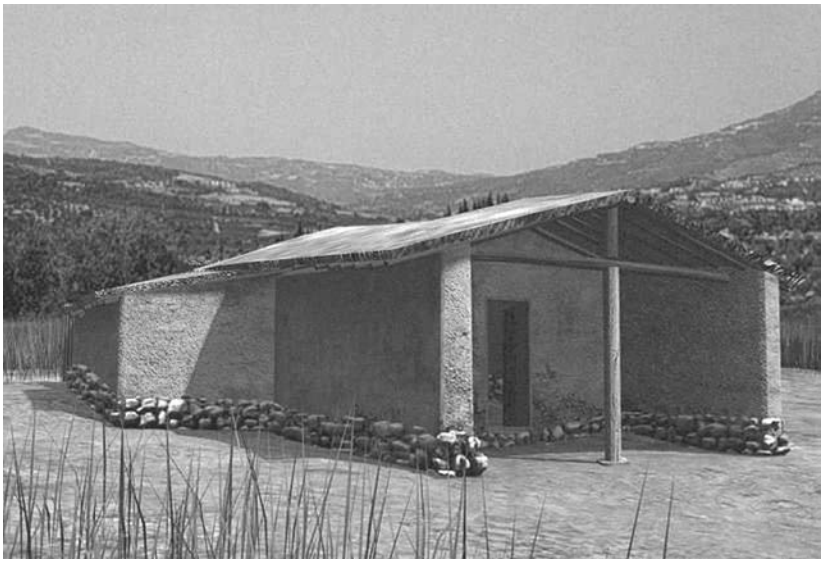

PLATE 10.2. Restored model of LH I building at Tsoungiza. Drawing by Donald Sandars. Courtesy of the author.

PLATE 11.1. Niello dagger from Mycenae, Circle A Grave V (NM 765). Courtesy of the National Archaeological Museum, Athens.

PLATE 11.2. Gold cushion seal from Mycenae, Grave Circle A Grave III. CMS I 11. Courtesy of Ingo Pini.

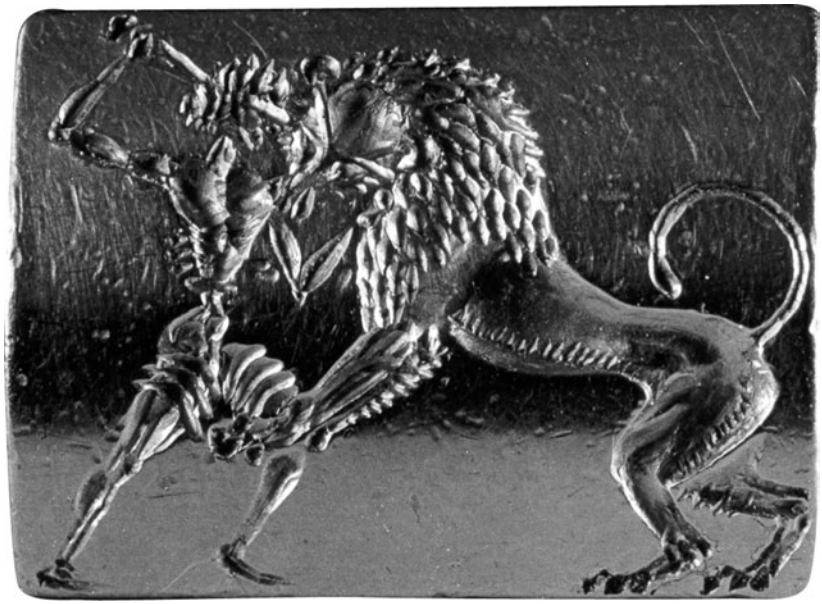

PLATE 11.3. Gold cushion seal from Mycenae, Grave Circle A Grave III. CMS I 9. Courtesy of Ingo Pini.

PLATE 11.4. The throne podium from the Tiryns megaron (NM 1737+1743). Courtesy of the National Archaeological Museum, Athens.

PLATE 11.5. The bath from the Pylos palace, Room 43. C. W. Blegen and M. Rawson, *The Palace of Nestor at Pylos in Western Messenia* I: *The Buildings and Their Contents*. Princeton: Princeton University Press 1966, Fig. 1.0. Courtesy of The Department of Classics, University of Cincinnati.

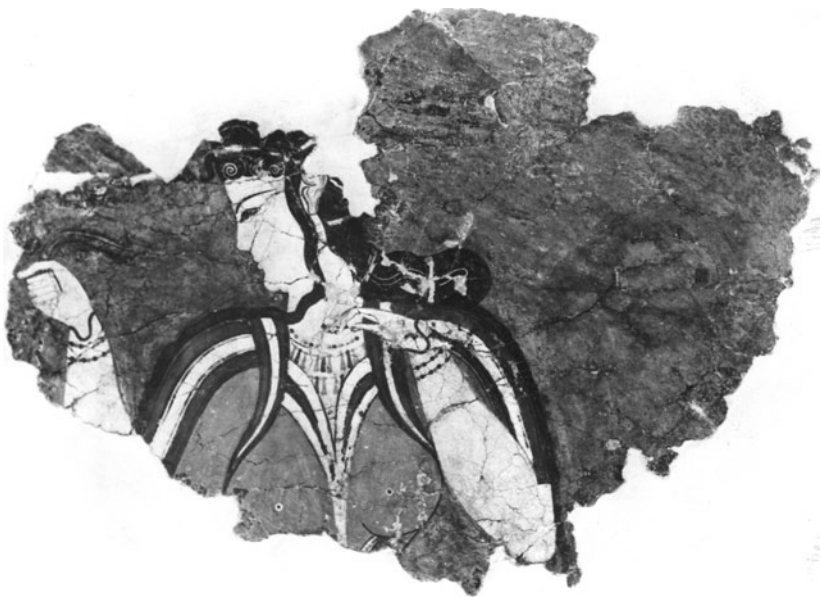

PLATE 11.6. Fresco from the Cult Center at Mycenae (NM 11670). Courtesy of the National Archaeological Museum, Athens.

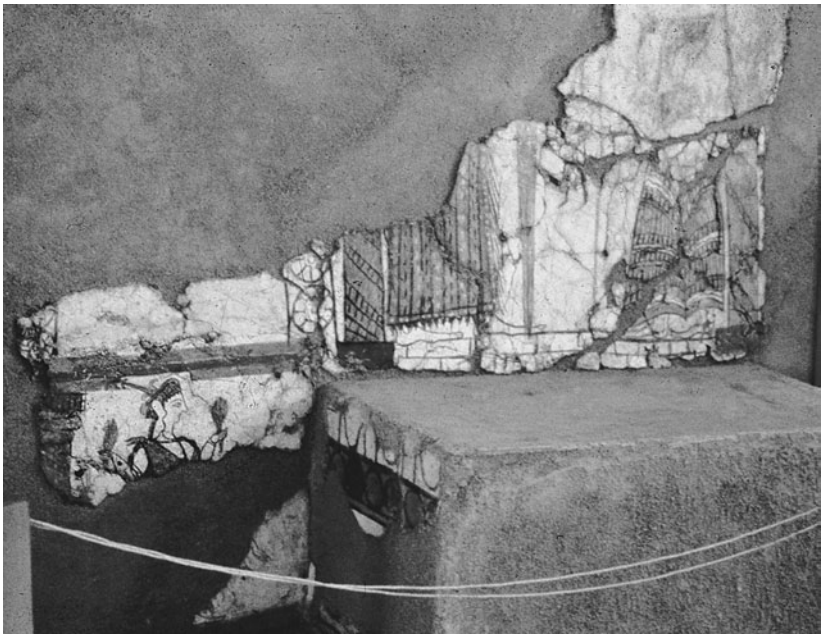

PLATE 11.7. Fresco from the Cult Center at Mycenae. Photograph by Cynthia Shelmerdine. Courtesy of Elizabeth French.

PLATE 11.8. Figure of standing woman from the Cult Center at Mycenae (68-1577 MM 28975). © Mycenae Archive. Courtesy of Elizabeth French.

PLATE 11.9. Kylix from Vourvatsi (NM 9101) with a row of whorl shells. Courtesy of the National Archaeological Museum, Athens.

PLATE 11.10. Cuirass and boar's tusk helmet from Dendra. Courtesy of the Nauplion Museum.

PLATE 11.11. Carved ivory head of a man from the Cult Center at Mycenae (69-42 MM 2001/62). © Mycenae Archive. Courtesy of Elizabeth French.

PLATE 11.12. Gold necklace with lily and papyrus beads from Dendra (NM 8748). Courtesy of the National Archaeological Museum, Athens.

PLATE 12.1. Mount Aigaleon from the Pylos palace. Photo by Cynthia Shelmerdine.

PLATE 12.2. Linear B tablets from Pylos (PY Ma 124, Ma 123). Courtesy of the Program in Aegean Scripts and Prehistory, The University of Texas at Austin, and The Department of Classics, University of Cincinnati.

PLATE 12.3 Bronzes from the Nichoria tholos tomb. Photograph by Cynthia Shelmerdine.

PLATE 12.4. Two stirrup jars from Thebes, LH IIIA-B. The one on the left may be a Cretan import; the inscription on it mentions a site in western Crete. K. Demakopoulou, ed., *The Mycenaean World: Five Centuries of Early Greek Culture 1600-1100 BC*. Athens: Greek Ministry of Culture 1988, 207. Courtesy of Katie Demakopoulou.

PLATE 13.1. Marathon–Vrana, Tumulus II. Photograph by the author.

PLATE 13.2. Mourners and coffin scene on a krater from Ayia Triada in Elis, LHIIIC. O. Vikatou, "Skēnē prothesēs apo to mykēnaïko nekrotapheio tēs Ayias Triadas." In *Forschungen in der Peloponnes*, edited by V. Mitsopoulos-Leon. Athens: Österreichisches Archäologisches Institut 2001, 275 fig. 1. Courtesy of Olympia Vikatou.

PLATE 13.3. Linear B tablet from Pylos (PY Tn 316 recto). Courtesy of the Program in Aegean Scripts and Prehistory, The University of Texas at Austin, and The Department of Classics, University of Cincinnati.

PLATE 14.1. Piriform jar from Ialysos, LH IIIA2. C. Mee, *Rhodes in the Bronze Age*. Warminster: Aris and Phillips 1982, pl. 5.1. Courtesy of the author.

PLATE 14.2. Painted papyrus from el-Amarna. L. Schofield and R. B. Parkinson, "Of Helmets and Heretics: A Possible Egyptian Representation of Mycenaean Warriors on a Papyrus from El-Amarna." *ABSA* 89 (1994) pl. 21. Courtesy of the British School at Athens.

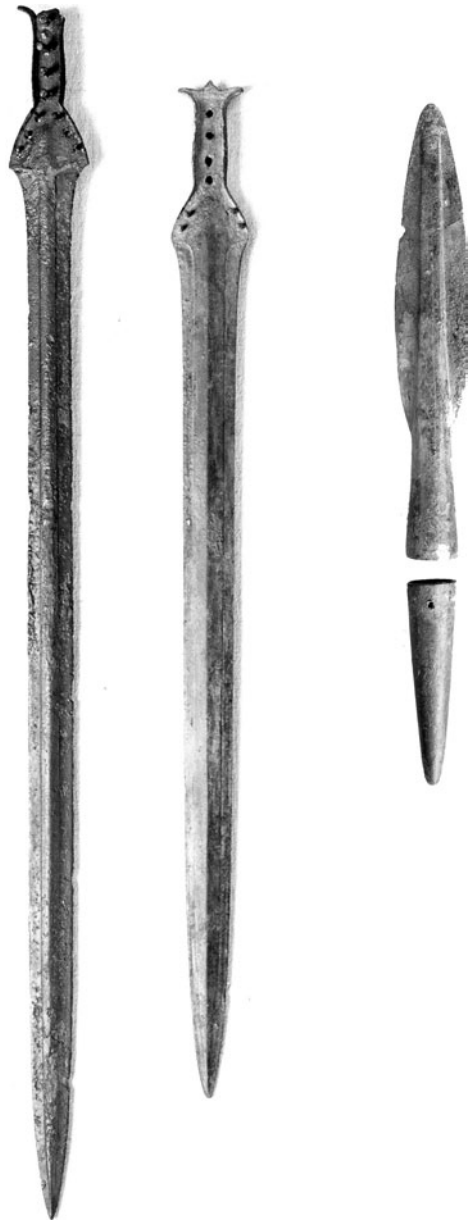

PLATE 15.1. Swords of Type Naue II and spearhead with butt spike from Kallithea/Achaea, Warrior Tombs A and B, LH IIIC. Photographs Peloponnes 115 and 131 Czako. Courtesy of the Deutsches Archäologisches Institut.

PLATE 15.2. Greaves from Kallithea/Achaea, Warrior Tomb A, LH IIIC. Photograph Peloponnes 122 Czako. Courtesy of the Deutsches Archäologisches Institut.

PLATE 15.3. Warrior vase from Mycenae (NM 1426), LH IIIC. Courtesy of the National Archaeological Museum, Athens.

PLATE 15.4. Close-style stirrup jar from Mycenae, LH IIIC Middle. A. Furtwängler and G. Loeschke, *Mykenische Vasen: Vorhellenische Thongefässe aus dem Gebiete des Mittelmeers*. Berlin: Asher 1886, no. 393.

PLATE 15.5. Pictorial-style krater fragment from Kynos/Livanates, LH IIIC Middle. Courtesy of Phanouria Dakoronia.

PLATE 15.6. Pictorial-style krater fragment from Tiryns, LH IIIC Middle (Tiryns Archive 1980/25,59). Courtesy of the Deutsches Archäologisches Institut.